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ABSTRACT BOOK

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OTOLOGY PROGRAMME
Stapes surgery evolution in Otosclerosis

WALTER LIVI (Italy), W. LIVI, M. LOGLISCI, S. COCCA

Objectives: The stapes surgery has undergone a profound change in the past 30 years, from the total stapedectomy was passed to stapedotomy. The simplification of intervention and the improve of technology have led to a faster surgical technique and a lower percentage of cochlear damages and complications. There are different types of stapedotomy: we can perform classical stapedotomy (platinotomy, fracture of stapes’ branches and insertion of prosthesis) or stapedotomy with inversion of surgical steps (platinotomy, insertion of prosthesis and fracture of stapes’ branches) or stapedotomy with partial inversion of surgical steps (cut the posterior branch, insertion of prosthesis, cut anterior branch).

After performing local anesthesia, we use Rosen’s endoaural approach and elevate the meataltympanic flap. We perform atticotomy and then we always measure the distance between external surface of the footplate and long apophysis of incus. After that we perform platinotomy using microdrill Skeeter 0.6 mm, introduce the prosthesis (platinum-ptide piston of 0.5 mm diameter), cut the stapled tendon, disjoint the incus-stapedial joint, we broke posterior and anterior stapes branches and remove superstructure. At the end we test the right movement of the new piston, we replace the tympanomeatal flap, and we use gelfoam and merocel to tamponade external ear canal.

Materials and Methods: From 1979 to 1984 we have performed stapedectomy as procedure of choise and 542 patients underwent to this technique. From 1984 to 1987 we have used classical stapedotomy as procedure of choise on 406 patients. Since 1987, we are performing stapedotomy with inversion of time as surgical procedure in 95% of case and we have performed 2168 operations.

The functional results in the short, medium and long term (1 and 6 months, 1, 5 and 10 years postoperatively) of our patients were divided into 5 groups, based on air-bone gap: air-bone gap <10 dB, air-bone gap * 15-20 dB, air-bone gap > 25 dB, unchanged air-bone gap and worse air-bone gap at the three main frequencies (0.5 - 1 - 2 kHz).

Results: Analyzing the results, we can see that air-bone gap is recovered after surgery, especially at the frequency of 1000 Hz. We have performed also 153 operations of revision surgery for different reasons, first of all (57,5%) for dislocation of the prosthesis.

Conclusion: thanks to the integrity of the incudo-stapedial joint, the stapedotomy with inversion of surgical steps guarantees lower incidence of fractures of the plate, easier measurement of the distance between footplate and incus and positioning of the prosthesis and less damages of the inner ear (lower incidence of postoperative dizziness and lower incidence of cochlear damage at low frequencies) than the classical stapedotomy.

Moreover, this technique provides an excellent recovery of the hearing function, reducing in most cases the air-bone gap.

Stapes surgery in complicated cases

OSMAN NURI OZGIRGIN (Turkey),

A successful stapes surgery needs an experienced otologic surgeon with good knowledge of temporal bone anatomy. Even with experienced hands the surgical procedure may convert itself into a very difficult to manage challenge because of some anatomical and functional conditions either related with the patient or
the technique. The surgical equipment and the versatility of the techniques that the surgeon can modify may help on finalizing the surgery with an expected outcome.

The conditions that may give trouble to the stapes surgeon can mainly be related with middle ear especially with the anatomy of the oval fossa and its relation with the facial nerve; the status of the otospongiotic disorder or the inner ear abnormalities.

The conditions that may create difficulty within the external auditory meatus are the exostoses that can be manifested by narrowing the canal. The tympanomeatal flap injuries can also force the surgeon to postpone the surgery.

Within the middle ear the most common difficulty that we may expect during the primary surgery is the oval window problems and its relation with the facial nerve. The prominent and overhanging facial nerve may sometimes create difficulty on manipulating the footplate. Facial nerve abnormalities are quite rare but the dehiscence of the fallopian canal may alert the surgeon. Sometimes the oval window niche may be deeply situated. The axis of the stapes can create difficulty. Or there may be an obliterative otosclerotic lesion.

The anatomical position of the saccule can expose higher risks of labyrinthine membrane injuries. The pressure of the perilymph can cause persistent leakage that can be mostly resulted with total hearing loss. The procedure itself may be the cause of further problems such as mobilization of the footplate, unplanned total stapedectomy or floating footplate.

In revision surgeries the most common finding is the erosion of the lenticular process.

A series of 23 cases that exposed trouble during 240 stapedectomy operations will be reported by focusing on the methods of managing the situation.

**OTOLOGY 10 // N° 24**

**Otolithic syndrome**

*PATRICE TRAN BA HUY (France),*

During recent years, a considerable body of experimental and clinical work has demonstrated the direct involvement of the otolith organs in stabilizing body and gaze and led to the development of specific functional tests. Thanks to these advances, an otolith semiology has emerged. We now know that drunken-like sensations and movements, lateropulsion, gait disturbance, visual symptoms, disorientation or erroneous sensations of upright posture, to quote but a few ill-defined or bizarre symptoms, must direct the clinician toward an otolith problem. New investigative tools are now available which can demonstrate the direct involvement of the utricle and saccule in the pathology.

This communication will review the anatomo-physiological basis and provide an overview of the tests that can be now routinely used to evaluate the otolith function and disorders. Ocular Counter-Rolling represents the unique manifestation of utricular function that can be directly observed in healthy subjects following stimulation but is rarely informative since it is relatively insensitive and sometimes difficult to look for. The Subjective Visual Vertical Test is a sensitive and easily administered tool. Its simplicity and cost-effectiveness render it quite useful. Vestibular Evoked Myogenic Potentials are at the moment the most reliable non-invasive test for assessing the saccular function. The main advantage of this test is that it permits each saccule to be investigated independently and objectively. The recent introduction of galvanic-VEMPs provide further interesting informations. Other tests permit testing of otolith function, but their high levels of sophistication renders them more difficult to administer: Off-vertical axis rotation (OVAR and Tilt Suppression Test.

Otolith function and disorders represent an new and fascinating field of vestibulology.
OTOLOGY 10 // N° 25

Management of Dizzy patient: The practical approach
FATTHI ABDEL BAKI (Egypt)

The paper presented will discuss the different causes of vertigo; the new modalities of investigations of a dizzy patient and the different management approach with special emphasis on
1. Patho-physiology of BPPV; its clinical presentation with different methods of management
2. The main clinical differences between Vestibular Neuritis & vascular insult
3. Role of Intra tympanic injections of Gentamycin & steroids in management of Meniere Disease
4. The different modalities of treatment of the newly emerging diagnostic entity of Migraine Associated Dizziness
5. Advances in different investigation tools needed for diagnosis of Dizzy patient
6. The role of surgery in a dizzy patient

OTOLOGY 11 // N° 28

Necrotizing external otitis
NICOLAS GUEVARA (France), Dr Mahdyoun Pouya

Objective: To carry out a systematic review of scientific evidence available about necrotizing otitis externa, emphasizing epidemiologic data, diagnosis criteria, treatment protocols, follow-up criteria, prognosis factors, and chronologic evolution. Data Sources: PubMed/MEDLINE and the Cochrane Database of Systematic Reviews were searched for publications in English and French languages, between 1968 and October 1st 2011. Study Selection We included publications of all types including at least 6 cases. We excluded publications focused on skull base osteomyelitis not originating from the external ear, and publications limited to a specific population. Data Extraction We assessed publication quality according to international guidelines. Data Synthesis For each publication, data was entered in a spreadsheet software for analysis. We excluded individual data already published in other studies or reviews Conclusions Our review revealed the absence of strong scientific evidence regarding diagnosis criteria, treatment protocols and follow-up criteria. This implies the use of highly empirical indexes of suspicion in clinical practice. Our review confirmed the existence of a typical but not exclusive population at risk (aged, male and diabetic patient) and also revealed major issues: lack of primary prevention in population at risk, delays before referral and management, bacteriological issues caused by antibiotic misuse (agent identification problems, rise of resistant strains), persistence of recurrent cases. A better diffusion of medical information should help improve the management of this severe disease.

OTOLOGY 11 // N° 29

How to manage exostosis of the external auditory canal ?
SERGEY KOSYAKOV (Russia), Koshok Vladimir (Russia)

Exostosis – it seems very easy to remove them. But this is not an easy task. That is why we will discuss the technique of their removal with minimizing risk of complications. Exostosis of the external auditory canal is a well-known otologic findings with patients engaged in cold water sport activities. The incidence of the external auditory canal exostosis is estimated by approximately 0.6% patients in Southern California. There is no statistical date of exostosis in Russia. The last Japanese publications show that the incidence of exostosis among the people involved in water sports exceeds 59.8%. German data show us that the exostosis is valid
Exostoses should be differentiated from other causes of stenosis of external auditory canal, including chronic external otitis, osteoma, postsurgical stenosis, and congenital or acquired atresia. Although exostosis and osteomas are frequently considered together, there is a clinical and histological distinction between these two lesions. Osteomas are usually unilateral, solitary, discrete, pedunculated bony masses arising from lateral external auditory canal along tympanomastoid or tympanosquamous suture line. Bony mass is covered by periosteum and squamous epithelium. Histologically, the osteoma is dense laminated bone with occasional osteocytes and numerous fibrovascular channels with abundant fibrous tissue and blood vessels. Exostosis of the external auditory canal are usually bilateral, multiple, diffuse, broad based growths of laminated bone covered with periosteum and overlying squamous epithelium. Histologically, the laminated bone is formed by concentric, dense layers of subperiostal bone with abundant osteocytes. Generally, external auditory canal exostosis is benign, incidental finding noted during examination of the ear. Accumulation of wax and debris in the external auditory canal medial to exostosis can result in external otitis and conductive hearing loss.

If the auditory canal obstruction is less than 60%, patients generally do not have problems with wax collection or debris in the ear canal and seldom have external otitis. Patients with greater than 80% obstruction of the canal have a much higher incidence of external otitis and related hearing loss. Surgical treatment of external ear canal exostosis is indicated if the canal stenosis is greater than 80% occlusion and occurs together with chronic or recurrent external otitis and hearing loss that is recalcitrant to medical treatment. Surgical removal of diffuse external auditory canal exostosis with greater than 80% occlusion of the canal is difficult. The exostosis often contact each other, occluding the canal completely. That is why there are no clear anatomical landmarks. Reported surgical complications for exostosis include postoperative canal stenosis, tympanic membrane perforation, ossicular disruption, temporomandibular joint (TMJ) injures, and rarely, facial nerve injury. These complications are possible even in experienced hands.

In preoperative evaluation, besides otoscopy and audiometry it is important and useful to have CT scans in different projections. More often we use axial and frontal scans. This as a road map for the surgeon. We can see the localization of exostosis, how broad is the base of exostosis, how close it comes to the level of the tympanic membrane, how close is the temporomandibular joint.

It is important for the surgeon to keep in mind the underlying anatomic structures in relation to the surgery site. And it is important to understand how lateral rotation of the patient affects the proximity of underlying anatomic structures. The facial nerve is positioned posterior to the canal wall and medial to the tympanic annulus. Excessive removal of the posterior bony auditory canal combined with the rotation of the patient away from the surgeon may place the facial nerve adjacent to a line between the surgeon and the tympanic annulus.

Aggressive removal of posterior exostosis with widening of the posterior bony canal carries a risk of facial nerve injury. The TMJ is anterior to the canal and may be injured by aggressive removal of anterior exostosis. Surgical approaches to remove exostosis include transmeatal, postauricular, and endaural incisions. Transmeatal approach we usually use in simple cases with not large exostosis. From our experience the endaural approach is more preferable. Minimal surgical trauma. Good surgical view. The direction of surgical activity is more close to the line of external auditory canal.

There are two available techniques for exostosis removal. One include mallet and thin chisel another high speed drill. The advantages of the chisel technique are a possibility to more thoroughly preserve the skin of the external ear canal. But the technique is time consuming, because it is safer to shave exostosis by thin layers, to avoid complications mentioned above. That is why we use it now only in simple cases with not
total occlusion. But even using chisel, it is usually necessary to use the drill at the end of the operation to flatten the surface of the bony canal.

Drill technique is safer, concerning complications. But sometimes it is difficult to preserve the skin. That is why some notes about drilling. At the proximal end of bony canal, where the skin is thicker we use the cutting burr with 16 blades (not aggressive). Deeper to the annulus and the tympanic membrane we use the diamond burr of a proper size.

Sometimes it is difficult to differentiate between exostosis of the anterior wall and natural deviation of the anterior wall. And you can see that even after removal of the posterior exostosis the external ear canal remains narrow. So it is better to model the anterior wall.

During eighteen years we have operated 47 patients (93 ears), 44 men, 3 women. Age was from 45 to 61. Most of the patients had more than 80% occlusion. Chisel technique was used on 27 ears (1994-1999). Other cases were operated with the high speed drill. Transmeatal approach only in two ears and endaural approach in 91 ears. All cases were performed under the general anesthesia with the infiltration of canal wall with Lidocain 2% and with epinephrine 1/10.000. All the patients received intravenous antibiotics during the surgery. All the exostosis were carefully “shaven off”. In some cases exostosis adjacent to the tympanic annulus was removed with small curette. And again the important precautions. Avoid an aggressive removing along the anterior canal wall to prevent injury to the TMJ. Avoid excessive widening of the posterior canal wall to prevent injury to the facial nerve and intensive irrigation with saline.

At the end of the operation the preserved skin is flattened against the bony canal wall. Lining of external auditory canal with silicone strips, then packing with Spongostane® impregnated with combination of antibiotic-steroid suspension. In the postoperative period we examined the ear two days after the operation and at weekly intervals daily impregnating sponges with antibiotic-steroid suspension. The sponges were partially removed in a week and completely after two-three weeks. Complains on the ear pain were evaluated for TMJ tenderness and were treated with antiinflammatory medications.

We have been following up our patients for about five years. All of them got good epithelialization. We did not observe postoperative canal stenosis and other complications. Duration of the surgery was about one hour. Healing of the canal wall takes about four weeks. During post-operative follow up we performed cleaning and irrigating of the external ear canal with topical antibiotic agents.

OTOLOGY 12 // N° 32

Regenerated therapy using bFGF & collagen in otology

NOBUHIRO HAKUBA (Japan),

To present a regenerated method for closing tympanic membrane perforations using basic fibroblast growth factor (bFGF) which is thought to facilitate the growth of fibroblasts and collagen fibers at the margin of the perforation combined with an atelocollagen/silicone bilayer membrane. This new therapy has been started since 2000 in Ehime University Hospital. Data obtained from 140 cases treated in Ehime University Hospital in these 2 years from July 2009 to October 2011. There were 45 males and 95 females and ages ranged from 13 to 90 years (mean 64.8 years). Under an operating microscope, the margin of the perforation was trimmed, and a piece of an atelocollagen/silicone bilayer membrane was placed in the perforation with the silicon layer facing outward and then infiltrated with 0.1 ml of trafermin. The perforation size were divided into 3 groups. (1) small = perforation in only one quadrant. (2) medium = perforation in two quadrant. (3) perforation involving more than two quadrant. Before treatment, small size was 67 cases, medium size was 51 cases and large size group was 22 cases. Complete closure of the TM perforation was achieved in 117 cases (83.6%), whereas pinholes were observed in 9 cases (6.4%) and perforations remained in 14 cases (10%). In the patients with complete closure, the TM perforations closed after an average 1.4 treatments, and hearing improved by 8.5 dB. This study demonstrated that bFGF combined with atelocollagen is effective for the conservative treatment of TM perforation.
Auditory processing disorder (APD) refers to difficulties in the perceptual processing of auditory information in the central neuron system. It is demonstrated by poor performance in one or more skills as a sound localization and lateralization; auditory discrimination; auditory pattern recognition; temporal aspects of audition, temporal discrimination, temporal ordering, and temporal masking; auditory performance in competing acoustic signals (including dichotic listening); and auditory performance with degraded acoustic signals (ASHA). The children with APD may have difficulty understanding speech in noisy environments, following directions, and discriminating similar-sounding speech sounds. They may have difficulty with spelling, reading, and understanding information presented verbally. Routine audiometric tests are unable to detect these disorders. It is necessary to use more sensitive behavioral tests as monaural low-redundancy speech tests (e.g., filtered speech, speech -in-noise), binaural interaction tests (e.g., localization, lateralization) electrophysiological tests (recordings of electrical potentials e.g., ABR, cortical event-related potentials P300, mismatch negativity -MMN), electroacoustic tests, and neuroimaging procedures. The results of those tests in own material are presented.

Surgery for improvement of hearing was rarely performed in the first half of the 20th century but with the introduction of the operating microscope it became popularised through the 1950s 60s. This lecture will give a brief overview of the development of modern ossiculoplasty with consideration of pertinent middle ear issues, prosthesis design and reconstruction techniques. In particular titanium ossicular reconstruction using KURZ partial Clip and total Variac prostheses with omega shoe will be illustrated with operative videos. The use of stapedotomy with malleostapediopexy in the presence of a mobile footplate will also be discussed. Results will be compared to a variety of techniques used by the author over the last 16 years.

Subjects with bilateral sensorineural hearing loss are commonly rehabilitated with conventional hearing aids but, in some cases, these devices either provide poor or distorted amplification or cannot be worn due to external ear canal problems (narrowing, chronic dermatitis). In these individuals, since less than a decade, Active Middle Ear Implants (AMEI) have been proposed in the hope to overcome the abovementioned issues. The AMEI utilize an electromechanical stimulation rather than acoustic, therefore enabling a clearer and sharper speech discrimination. According to their partial or total encasement, the AMEI are distinguished between semi- and fully-implantable devices. The Esteem ® (EnvoyMedical, St. Paul, MN, USA) is a fully-implantable AMEI that has received both CE and FDA release and is indicated in case of sensorineural hearing loss with normal middle ear function. Among the other characteristics of the Esteem ®, it is worth mentioning the absence of a microphone, the piezoelectric modality of stimulation and the need of replacing the internal battery after 5 to 7 years of use.
Subjects and methods:
Thirty-three subjects affected by bilateral sensorineural hearing loss have been operated on Esteem® implant at Rome Sapienza University, Sant’Andrea Hospital, since 2007. The major surgical steps consisted in an enlarged mastoidectomy with a wide posterior tympanotomy; laser-removal of part of the incudal long process; positioning and cementation of the two transducers on the incus body (Sensor) and stapes head (driver). Intra-operative Laser Doppler Vibrometry measurements were carried out at different steps of the procedure in order to assess system efficacy and to predict the final outcome. Six to 8 weeks after surgery, all the devices were turned on.

Results:
In all the patients, a deterioration of air-conductive threshold was evidenced due to the incudo-stapedial interruption. Although in all cases the chorda tympani nerve was severed to allow having a wide posterior tympanotomy, only a small percentage of them referred permanent taste disturbances. In three patients, a delayed, temporary (1 month) facial palsy was found. In over 65% of the cases, a remarkable hearing improvement was noticed via soundfield speech audiometry. In two subjects, explantation was carried out due to processor’s dehiscence (1 case) and increased tinnitus (1 case). In 6% (2 subjects) of the cases, only a slight improvement was achieved. Six percent (2 cases) of the subjects required a transcanal surgical revision in order to remove middle ear fibrous adhesions. When comparing, in a specific group of patients, the performance of the Esteem® versus a last generation digital conventional hearing aids, a better sound quality was referred by the subjects, with a mean threshold improvement of approximately 13 decibel. As for the battery, its change has been need in advance to the predicted time, presumably due to the degree of sensorineural hearing loss.

Conclusions:
The Esteem® fully-implantable AMEI appears to be a promising hearing device to be used in selected subjects affected by sensorineural hearing loss, when there is a limitation for using traditional hearing aids.

OTOLOGY 15 // N° 43
The anterior epitympanic recess: a key point in chronic otitis media
SALAH MANSOUR (Libanon),

The objective of this course is to demonstrate the role of the anterior eiptympanic recess in the etio-pathogenesis of chronic otitis media, the contrôlé of the disease and its recurrent episodes. To emphasize on the importance of aeration in maintaining the normal function of the middle ear a review of the surgical anatomy of the tympanic diaphragm, the different spaces of the attic, espacially the anterior epitympanic recess, and their routes of aeration will be presented.

When do we suspect the involvement of the Anterior epitympanic recess and its responsability in recurrent episodes of otitis media with effusion despite repetetive ventillation tube, recurrent otorrhea with pinpoint tympanic membrane perforation or even a retraction pocket? This will be fully indicated.

Also we will study the role of Ct Scan in the diagnosis of the pathology and the selection of surgical approches.

The concept, principal and keys of success of the surgery of the anterior epitympanic recess will be demonstrated. Clinical cases and videos will help to better understand the management and the surgical technique of such conditions.
Techniques reinforcement of the tympanic membrane

MICHEL GERSDORFF (Belgium),

The aim of this lecture is to present the different techniques to reinforce the tympanic membrane. The author will answer to the questions:
Why and when to reinforce the tympanic membrane?
Which materials to use?
What are the techniques to cartilage use?
How to reconstruct canal wall defects?
The author will also present the advantage of bovine pericardium underlay xenograft (Tutopatch) versus butterfly cartilage inlay autograft.

How to avoid canal wall down surgery in cholesteatoma: The Bony Obliteration Technique: surgical technique and long term results

ERWIN OFFECIERS (Belgium), Thomas Somers, Andrzej Zarowski, Joost van Dinther, Jean-Philippe Vercruysse, Ja

European Institute for ORL-HNS1 and Dept. of Radiology2, Sint-Augustinus Hospital, Wilrijk-Antwerpen, Dept. of Medical imaging, Bruges3, Belgium

Since the last 15 years we have used the Canal Wall Up Bony Obliteration Technique (CWU-BOT) in 87% of our cholesteatoma cases. This technique preserves the bony CW and closes the tympano-attical barrier and posterior tympanotomy with sculpted cortical bone. After removal of all diseased soft tissue and bone, the antro-attico-mastoid space is completely obliterated with healthy bone pâté. The ME is reconstructed with a tympano-ossicular allograft, including the malleus handle, which acts as the anchor point for columellar reconstruction to the stapes with a remodelled allograft incus or malleus.
The CWU-BOT combines the advantages and avoids the disadvantages of both the CWU and CWD technique. In our opinion this is the state of the art answer to the question whether CWU or CWD techniques should be preferred for the surgical management of cholesteatoma cases. The suppression of the paratympanic cell system by complete bony obliteration seems to favourably influence the behaviour of the biologically unstable middle ear and its mucosal lining. The careful reconstruction of a solid bony partition between the mastoid and attic space on the one hand and the ear canal and tympanic cavity on the other hand seems to limit the effect of the pathological biological behaviour of the canal skin.
In our series, the 5 year recurrence rate of cholesteatoma has dropped to 1.4%. The residual rate is quite acceptable at 5.7%. During long term follow-up, no residual pearls were found in the bony obliterated space, but only in the tympanic cavity, as evaluated by non-Echo Planar diffusion weighted MR sequence, executed at 1 and 5 years postoperatively. This MRI sequence allows for near-pathognomonic characterization of even very small cholesteatoma pearls, down to a size of 2 mm. They can be unambiguously distinguished form other soft tissue such as scar tissue, cholesterol granuloma, granulation tissue and fluid. The sequence has been validated and widely published over the last years. Thanks to this imaging protocol we have totally replaced the routine exploratory surgical second stage by non-invasive MR imaging.
As a consequence, we have totally abandoned CWD techniques since more than 15 years.
OTOLOGY 17 // N° 46

Primary otosclerosis
JOHN OATES (United Kingdom),

This instructional session will be primarily aimed at Senior Trainees and young Otology Specialist colleagues. However, the speaker hopes that there will be techniques, tips and tricks appropriate to established experienced Otologists.

The session is aimed to be interactive and will focus on suggestions for patient selection and setting the Operating Room up to be an ideal environment for ossicular surgery with particular emphasis on equipment and patient positioning. The presentation will be augmented by high resolution video of the primary procedure with ample time for the speaker to stop and answer audience questions or discuss pertinent issues during proceedings. Members of the audience are welcome to bring along the summary of a case that the audience can discuss and offer advice about. This should be on a USB stick and given to the speaker. They should be in Powerpoint or Keynote format. If time permits up to 2-3 cases could be discussed.

OTOLOGY 19 // N° 50

Rationale and Indications of the Enlarged Retrolabyrinthine approach
MIGUEL ARISTEGUI (Spain),

The Retrolabyrinthine approach was described in 1972 by Hitselberger and Pulec for trigeminal Neuralgia, although it became more popular for vestibular neurotomy in the 80’s. In 1994 Darrouzet and coworkers proposed it for the management of CPA lesions.
We started using this approach in 1995 for vestibular neurotomy and expanded it to an Enlarged Retrolabyrinthine approach with infralabyrinthine extension. We then started using it for Vestibular Schwannoma, Meningioma, and Epidermoid of the CPA.
We will show the rationale, indications and outcomes of this Otological Approach.

OTOLOGY 2 // N° 5

Middle ear cleft gas deficit disease, Pathogenesis-oriented management
BERNARD ARS (Belgium),

Middle ear cleft gas deficit disease - atelectasis is an incomplete expansion of the middle ear space associated with medial displacement of the eardrum towards the promontory. The eardrum is atrophic in most cases. Its therapeutic management is pathogenesis oriented.
Therapeutic management involves a triple approach and concerns three entities: At first, the general curative treatment, of the upper airways mucosa inflammatory process, which is particularly important in children; Secondly, the prospective curative treatment of the middle ear cleft pressure variations imbalance; Third point is the local curative treatment of the pocket itself.
The three areas which have to be taken into consideration simultaneously in the therapeutic management, of the middle ear cleft atelectasis are: upper air ways mucosa, fibrocartilaginous eustachian tube- middle ear cleft system and tympanic membrane pocket itself.
In this course, we will discuss the indications and describe the techniques of this management.
Surgery for cholesteatoma from the temporal bone dissection to clinical surgical cases are presented for otologic beginners. Surgical steps illustrated by dissection movies will show mastoidectomy, posterior tympanotomy, posterior ear canal wall, approach to the attic and supratubal recess. Special clinical cases with labyrinthine fistula ans subtotal petrosectomy wit could de sac closure of the ear canal will be shown. Clinical results of cholesteatoma management in Univ ORL dept in Bratislava will document our experience with this topic.

In cholesteatoma surgery, we usually perform ICW. Because the indication mostly depends on the location and the extensions of the lesions, it is necessary to perform besides an otoscopy, a very good preoperative CT.

The aims of the CT will be to confirm the diagnosis of cholesteatoma, to show the erosions of the ossicles and the other bony erosions, to precise the location and the extension of the disease and to evaluate the operative pitfalls. We will propose a useful classification based on otoscopy and CT data, in order to establish a surgical strategy.

In cases of mesotympanic cholesteatoma or in cases of cholesteatoma limited to the lateral part of the attic, it is possible to remove lesions via a transcanal or an endaural approach with preserving an intact ossicular chain in selected cases. In all the others cases we perform an Intact canal wall tympanoplasty (ICW).

Characteristics of these ICW tympanoplasties will be illustrated thanks videos. In particular, we reinforce of all the tympanic membrane with cartilage and we remove the malleus when the cholesteatoma fills all the attic. Ossiculoplasty is usually performed during the first stage and put in place most often via the posterior tympanotomy: cartilage on the head of the stapes when stapes is present and titanium TORP when stapes is absent.

Two studies will show the interest of these techniques.

A second look is only performed in cases of recurrence of the lesions, in cases of residual cholesteatoma enhanced by radiological data (interest of CT and non EPI MRI imaging will be discussed thanks short clinical cases) and in some cases of important conduction deafness.

The conventional helical CT image blurs fine and minute bony structures such as the ossicular chain, the vestibulo-cochlear ducts, the facial canal, etc and clear images of implanted metal is unobtainable due to artifacts. From a safety standpoint, radiation doses given to the cornea can not be ignored. To eliminate such shortcomings of conventional CT, a high resolution cone beam computed tomography (CBCT) has been developed. This new CT technology presents an excellent super high resolution three dimensional view of cranial bone from any desired direction. In addition, volume rendering images provides a realistic 3D view of the complex structures. The most informative images can be chosen by the clinician on the monitor of a computer. We have used a CBCT system (Accuitomo, J Morita Manufacturing Corporation, Japan) and have
found it to have outstanding diagnostic, educational and investigational value. In this course we first present 3D CT images of normal temporal bone structures and skull base that could not be detailed by conventional helical CT. We then present high resolution 3DCT images of the diseased bones and discuss how they are helpful in diagnosis and operation. Finally we will discuss future development of this new imaging technology.

OTOLOGY 22 // N° 56

Minimally invasive endoscopic ear surgery: indications, preoperative assessment, surgical technique and outcome

LELA MIGIROV (Israel),

Course description: 1-Presentation of the rational for use of endoscopes in the ear surgery and presentation of an endoscopic anatomy of the middle ear; 2-Description of the indications for minimally invasive endoscopic ear surgery (EES) and preoperative assessment (CT and MRI) for cholesteatoma surgery; 3-Description of the surgical technique and instruments for the EES; 4- Presentation of the results and video clips of the EES.

Rigid endoscopes 3- and 4-mm in diameter, 0, 30, 45 and 70 degree, were used routinely for all the procedures. Surgical interventions were divided into exclusive EES, when the only transmeatal procedure was performed, and EAES (Endoscope- Assisted Ear Surgery), when mastoidectomy was required to complete eradication of the disease in addition to the endoscopic procedure. Endoscopic approach was utilized in more than 150 patients. The indications for the EES were as follows: cholesteatoma limited to the middle ear and its extension, endoscopically accessible cholesteatoma in the post-mastoidectomy cavity, stapedotomy, cochlear implantation, anterior marginal perforation of the tympanic membrane with the bone overhanging, middle ear osteonecrosis and external ear canal osteoma. The results of current series indicate that the use of endoscopes provides good surgical and functional results in eradication of cholesteatoma and management for different external and middle ear pathologies.

OTOLOGY 22 // N° 57

Diagnosis and Treatment of the Superior Semicircular Canal Dehiscence Syndrome

VINCENT DARROZET (France), Franco-Vidal Valérie

Aim: To report symptoms and diagnosis work-up in SSCD. Vestibular and audiological functional results after superior semicircular canal plugging through a middle fossa approach (MFA) are also considered.

Material: Were considered as SSCD patients those having a decreased threshold and increased amplitude at VEMPS. Eleven patients were surgically handled among 37 patients diagnosed of a SSCD. Two patients were operated on both sides. Only patients suffering from very severe and disabling vestibular symptoms were considered for surgery. The lumen of the superior canal was obscured with bone wax and bone pâté through MFA. Were analyzed and compared symptoms, audiological and vestibular data (VEMPS, Vibratory testing, videonystagmography) in the pre and post operative courses.

Results: No neurosurgical complications were observed. Of the 13 patients, 8 suffered from a mixt hearing loss. Eight had a Tullio’s phenomenon. All, except one who was retired, were so disabled that they had stopped their occupation. In the postoperative course, 2 patients had immediate severe vertigo and nystagmus associated with a sensorineural hearing loss treated with steroid and bed rest. After 5 days, they returned to normal on the audiological point of view. Clinically, all the patients were improved. All came back to their occupation. Two patients had 4-months duration vestibular rehabilitation to help them to compensate (they had bilateral SCCD). No patient had hearing sequel. In seven of the 8 preoperatively deaf patients we observed an ABG closure and a postoperative normal or subnormal hearing. In 9 cases, VEMPS returned to normal. In 5 cases VEMPS could not be obtained.
Conclusion: plugging of the superior canal by MFA is a very efficient procedure. It necessitates a great expertise to avoid neurosurgical complications and above all sensorineural complications. Indication of this surgery must be limited to very disabling SSCD, associated to severe vestibular symptoms.

OTOLOGY 23 // N° 58
The advanced BPPVs: Treating the BPPV patients that did not resolve on the Epley/Semont manoeuvr
MANS MAGNUSSON (Sweden),

BPPV is the most common cause of dizziness. Both when presented in an emergency room, in a practice and as prevalent in society. About 1/3 of all seniorcitizens presenting which dizziness will be diagnosed with a BPPV. Although benign the symptoms cause distress and even incapacitating handicap. The normal course include substantial spontaneous remissions and the particle 'repositioning maneuvers' and training programs will help to alleviate most subjects. However, given the abundance of the problem there is a substantial amount of patients not getting well. This course is directed to the treatment of those patents. The course will leave the most common posterior and lateral canal canalolithiasis and concentrate upon reducing recurrences, anterior canal and the cupulolithiasis, the 'more than one canal' BPPVs, the central positional nystagmus and the transition into postural phobic dizziness (a.k.a. persistent, perceptual postural dizziness), and the treatment of these conditions.

OTOLOGY 23 // N° 59
Endolymphatic sac decompression still controversial
DAVID MOFFAT (United Kingdom),

Introduction
George Portmann’s research on the elasmobranch fishes in 1924 laid the scientific foundation for operating on the endolymphatic sac in Meniere’s disease. The only paper published subsequently on saccus surgery the so-called “Danish sham study” although representing Level 1 B evidence was flawed in design and its power so weak as to render it unhelpful in resolving the controversy. Recent papers have accepted that Level 1 evidence is almost impossible to achieve for surgical procedures and that it is acceptable to move to lower levels of evidence as illustrated in the recent Cochrane review.

Method
Retrospective case note review in a tertiary referral centre.

Results
Saccus endolymphaticus /mastoid shunt surgery can achieve complete or substantial vertigo control for 5 years in 79% and long-term in 50%. Hearing improvement is seen postoperatively in 15% ,the hearing stays the same in 56% and there is some deterioration in 29% with a dead ear rate of 1%. Tinnitus will improve in 35% of patients, remain the same in 56% and worsen in 9%. Forty four percent of patients will have no disability postoperatively and only 8% will be unable to sustain gainful employment.

Conclusions
Sac surgery has an important place in clinical practice and is still the only conservative surgical procedure for Meniere’s disease. The preservation of residual labyrinthine function is important in retaining management options for the contralateral ear in those significant number of patients developing bilateral disease.

OTOLOGY 24 // N° 61
Vestibular Schwannoma: Treatment options and results
Vestibular Schwannoma (VS) is a benign tumour which usually either grows slowly or remains unchanged for many years. This knowledge has emerged during the last years. In the 70-ies almost all VS found, were offered surgery. Some patients hesitated to be operated, some were not followed up? and some doctors observed a few elderly patients with small tumours.

The number of diagnosed tumours less than 20mm are increasing, and treatment aims at preventing morbidity caused by growth and pressure and surgery is in only a few patients a life-saving procedure. When treatment is indicated, surgery and Gamma Knife (GK) Radiosurgery (Leksell) are alternatives. Both methods lead to cure in 90-95% of cases. But tumour complaints, may persist despite treatment.

Our results, as well as trends in VS treatment world-wide, has modified our management strategy the last years. Small VS should as a rule be observed initially with MRI every year for a period of 10 years. Growing tumors and tumors compressing the brain stem should be treated. From the early nineties, GK has emerged our treatment of choice for small and medium sized tumors not compressing the brain stem. Hearing preservation is likely with observation and GK treatment in 50-70%. Larger tumours still need surgical resection to decompress the brain stem and prevent cranial nerve deficits. A near-total resection will reduce the risks for cranial nerve palsies. The remnants of tumors could be followed by MRI, and eventually treated with GK if signs of growth.

Unsteadiness and vertigo will be a problem for around 40% of patients. Treatment with guidance, training and support is important. Surgery could be offered to patients even with small VS when persistent unsteadiness persists a problem. Preservation of hearing is another goal to be met in some cases.
OTOLOGY 27 // N° 70

**Diagnosis and treatment of BPPV: liberatory manoeuvre (part 1)**

ALAIN SEMONT (France)

Evoked myogenic potentials should be performed. Computed tomography is also very important to decision for the intervention. These pathologies often are treatable through medical or surgical approaches. Conventional or implantable hearing aids are also options. Difficulties in the assessment of hearing in the patients with conductive or mixed hearing loss and implantable hearing aids are the main objectives of this course.

OTOLOGY 26 // N° 1

**Differential diagnosis of positional vertigo based on nystagmus findings.**

MAMORU SUZUKI (Japan)

Positional vertigo, including BPPV is a common disorder in our clinical setting. Nystagmus test plays an important role for diagnosis of vertigo, since nystagmus provides us with objective findings of the vestibular system. In my presentation, various types of nystagmus will be shown together with clinical findings and ENG results. Types of BPPV can be diagnosed by patterns of nystagmus, such as direction changing rotatory-vertical for posterior canal type and direction changing horizontal for lateral canal type of either canalolithiasis or cupulolithiasis. Latency and duration of the nystagmus contribute to differential diagnosis of these subtypes. Determining the lesion side of BPPV is essential for performing a physical therapy and surgery. Down-beating (DB) nystagmus is often observed in the central lesion, such as cerebellar and brain stem lesions. These include tumors, infarction, and verteobasilar insufficiency. However, some peripheral lesions present DB nystagmus of which etiology is still unknown. Fistula sign test highly suggests the presence of lateral canal fistula usually due to middle ear cholesteatoma. Vestibular schwannoma shows various types of nystagmus according to the progress of tumor. Other important types of nystagmus will be presented together with other test results. Hopefully, my presentation would give some hints to the evaluation of dizzy patients at clinical setting.

OTOLOGY 26 // N° 2

**Simplified myringoplasty**

MASAFUMI SAKAGAMI (Japan)

Background: Over the last 23 years, simple underlay myringoplasty (SUM) has been widely adopted in Japan because of its simplicity and high success rate. SUM was presented at 2007-2012 AAO-HNS instruction courses.

Objective: To introduce SUM to American otolaryngologists.

Technique: Through a transcanal approach, the margin of the perforation is freshened with a fine pick under local anesthesia. A graft of the connective tissue obtained from the retroauricular region is inserted through the perforation. The graft is gently lifted to make contact with the edge of the perforation, and a few drops of fibrin glue are applied to the contact area. Two small and large grafts are used for large perforation. There is no packing in the external canal or in the middle ear cavity, and hearing test can be conducted. If the perforation persists, re-closure is attempted in the office using patient’s frozen materials. The application of SUM includes transcanal tympanoplasty, bilateral same day surgery and surgery on an only hearing ear.

Results: The rate of initial closure was 478/621 (77.0%), and overall success after re-closure was 595/621 (95.8%). There are no serious complications such as sensorineural hearing loss.

Conclusion: SUM can be safely performed as an office surgery.
Forty years ago any vertigo attack was "Meniere". Today most sudden vertigo attacks are labeled "crystals". Publications present sometimes surprising statements, poor success rate, numerous maneuvers performed and when the results are uncertain self maneuvers are proposed and even sometimes surgery is suggested.

The goal of this two parts workshop is to share with the audience the experience and knowledge of the author. Physiopathology will be refreshed, differential diagnosis will be presented, usual complains of the patients will be discussed, VNS observations will be presented by means of little video samples.

The second part will be dedicated to the maneuver itself. Demonstration and methodology will be done. Results of a going on multicentric survey will be presented. This survey is the result of a team of trained clinician for this work and show, the day this is written, only one maneuver, more than 95% success rate and no after effects.

Discussion and questions.

OTOLOGY 27 // N° 71
Diagnosis and treatment of BPPV: liberatory manoeuvre (part 2)
ALAIN SEMONT (France),

Forty years ago any vertigo attack was "Meniere". Today most sudden vertigo attacks are labeled "crystals". Publications present sometimes surprising statements, poor success rate, numerous maneuvers performed and when the results are uncertain self maneuvers are proposed and even sometimes surgery is suggested. The goal of this two parts workshop is to share with the audience the experience and knowledge of the author.

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Discussion and questions.

OTOLOGY 28 // N° 72
Surgical management in otosclerosis - Difficult situations
PG VISVANATHAN (India), Anjana Visvanathan, Sreerama Murthy

1. Obliterative Otosclerosis

- Denotes total obliteration of the OW. This requires a drill out of the FP area circumferentially. Drill out is done intermittently with irrigation to clear the bone dust and to dissipate the heat.
- Drilling should be done with low revolution.
- Drilling is done with 0.8 mm diamond burr.
- Once the blue reflex with mild seeping of perilymph is identified denoting the proximity of the vestibule, then the stapedotomy opening is done either with a diamond burr or by a single shot CO2 laser.

2. Stapedotomy with persistent stapedial artery

- Remove the superstructure of the stapes either with KTP Laser or diamond burr without damaging the artery. In general, the artery lies closer to the anterior crus than the posterior. One can create sufficient space for fenestration in the FP by removing the remnant of the posterior crus to the level of the FP by
Balloon Dilatation of the eustachian tube in chronic tube dysfunction

GOETZ LEHNERDT (Germany), Lehnerdt G, Winterhoff S, Heusgen L, Jahnke K, Lang S
There have been many techniques proposed to cure chronic Eustachian tube dysfunction. None of them could achieve a sustained success. On the lines of balloon catheter dilatation of coronary vessels, balloon dilatation of the Eustachian tube (BET) presents a novel promising technique to solve this old problem. After its product placement it has been applied in more than 4000 cases worldwide so far without serious complications. We present a modified technique of visualization when applying the “Bielefeld balloon catheter” in trans-nasal dilatation of the Eustachian tube for chronic tube dysfunction. Instead of using the fragile mini-endoscope through the insertion instrument, the intubation of the catheter into the tube orifice can easily be controlled by rigid 70° endoscopy of the nasopharynx via the oropharynx (comparable to the setting for adenoidectomy). We will further outline our experience with special emphasis on the pre-operative diagnostics, possible simultaneous procedures such as septumplasty or tympanoplasties, as well as the upcoming enlargement of the indication spectrum for balloon dilatation in patients with situational impairment of Eustachian tube ventilation.

OTOLOGY 29 // N° 76
Management of difficult case in cholesteatoma surgery
MAURIZIO FALCIONI (Italy),

Presently the majority of middle ear cholesteatomas are treated through standard tympanoplasty techniques. However there is a limited number of “difficult” cases that require specific management, sometime with adoption of a different approach (usually a subtotal petrosectomy). These difficult cases include lesions with areas of dura uncovered, involvement of large vessels, facial nerve involvement, presence of inner ear fistulae, presence of meningoencephalic herniation and/or a CSF leakage. Contracted mastoid, presence of bone neoformation or previous obliteration may create additional difficulties too. The majority of these situations may be recognized preoperatively through a CT scan. Specific treatment modalities for all these cases are described in details.

OTOLOGY 3 // N° 8
Endoscopy of the cerebellopontine angle
ANDRE CHAYS (France),

For more than 20 years and particularly thanks to Pr. J. Magnan, endoscopy of the ponto cerebellar angle has become routinely, providing a useful refinement in the course of retrosigmoid approach.

After describing essential equipment and environment to perform the endoscopic procedure, three situations will be referred:
- the first one, where endoscopy is not necessary: vestibular neurotomy or rare tumor biopsy cases need no endoscopy procedure,
- the second one where endoscopy is only optional: in case of tumors removal, endoscope could be use as a supplement to microscope according to surgeon’s preferences and habits or in order to preserve anatomical structures as inner ear from drill injury,
- the last one, where endoscopy is always compulsory: when the surgeon does a neurovascular decompression for trigeminal neuralgia, hemifacial spasm or vertigo, he has to « put his eyes in ponto cerebellar angle to look for microscope hidden areas ». So he is able to identify, then understand the conflict mechanism before solving it, without brainstem retraction.

Finally, we hope the auditors will be convinced to use endoscopy procedure in the PCA surgery.
Keyhole retrosigmoid approach to the CPA: Indications, technical modifications and results
BADR ELDIN MOSTAFA (Egypt), Mohammed El Sharnoubi, Ahmed Youssef

1-The Keyhole Retrosigmoid Approach to the CPA: Indications, Technical Modifications, and Results
Badr E. Mostafa, Mohammed El Sharnoubi, Ahmed Youssef

Objectives:
Demonstrate the versatility and usefulness of the keyhole retrosigmoid approach to the cerebello-pontine angle (CPA) in various pathologies.

Methods:
One hundred eighty patients with various pathologies of the CPA underwent the relevant investigations and were operated upon by the retrosigmoid microendoscopic approach. The technical modifications and progression of our technique are described.

Results:
The pathologies included tumours (acoustic neuromas, meningiomas, glomus tumours), vestibular neurectomies and neurovascular cross compressions. For non-mass lesions, no additional facial nerve injury or deterioration of hearing occurred. Total excision of mass lesions was achieved in 94.5% of cases. Facial nerve integrity was preserved in 92.3% of cases with mass lesions and permanent facial paralysis occurred in 8.3%. There were no mortalities, and the most frequent complication was a delayed cerebrospinal fluid leak from the site of the wound (15%), which was managed conservatively in all cases.

Conclusions:
The keyhole retrosigmoid approach is a versatile one. It can be used to deal with different pathologies through a unified access, and with the increasing exclusive use of endoscopes, a truly minimally invasive surgery can be achieved.

What should a general ENT knows for Ménière Disease counselling and treatment?
CONSTANTINO MORERA (Spain), Herminio Perez-Garrigues

Introduction:
Ménière’s Disease (MD) is defined as the appearance of vestibular and auditory symptoms. The symptoms onset, its severity and subsequent evolution is important for treatment planning, for patient information and in the control of the progression of the disease.

There exist few studies about the evolution of MD in long series of patients. The paucity of studies about evolution of this disease has several causes as lack of homogeneity in the diagnosis, series with few patients and lack of unified criteria to assess evolution.

Aims:
The aims of the course are to present the results about most relevant characteristics of MD from the disease onset and his subsequent evolution in a group of MD patients.

Method and results:
A population of 237 patients with Meniere’s Disease (MD), controlled with a computerised programme during the last 30 years, are presented.

Morphology of the evolution curve of vertigo crisis in MD is descendant at any stage of disease. Depending on disease severity, it descends more in some cases than in others.
Audiometry results, corrected for patient age, show an inherent upward-sloping configuration of the mean audiometric curve during the disease.

We presents the behaviour of crisis and hearing patterns in bilateral cases because there are different in unilateral cases. The audiometric curve configuration may be an indicator of future bilateral disease.

OTOLOGY 31 // N° 80

Auditory neuropathy

KIMITAKA KAGA (Japan),

Auditory and vestibular functions of adult and child patients were evaluated in Auditory Nerve Disease (1996, Kaga, et al), with presence of OAE, absence of ABR, and –SP of EcoG.

Clinical tests of the balance system in these patients indicated abnormality on the balance. Ice water caloric stimulation failed to elicit nystagmus in the adult patients. Strong rotational chair testing yielded results consistent with bilaterally impaired function of the horizontal semicircular canals and/or vestibular nerve in adult and child patients. In the adult patients, the vestibular-evoked myogenic potential (VEMP) was abolished. It is suggested that the terms “auditory neuropathy only,” “auditory-vestibular neuropathy,” and “vestibular neuropathy only,” in Auditory Nerve Disease could be used to characterize these patients with involvement of only the auditory branch of the VIII cranial nerve in both the auditory and vestibular branches. This usage may help to categorize this disorder more pathophysiological. Moreover, follow up study on adult and child patients are very important because of influence of aging in adult patients and of development in child.

OTOLOGY 31 // N° 81

Congenital cholesteatoma: classification and surgical management

HONURAPPA VIJAYENDRA (India),

Definition:
Congenital Cholesteatoma is a squamous epithelial cyst arising from congenital remnants to keratinising squamous epithelium in the Temporal bone.

Congenital Cholesteatoma occurs in the Temporal bone, petrous apex, CP angle ,middle ear and mastoid. The most common site of origin is middle ear. Presenting features depends on site of origin. Diagnosis is made based mainly on clinical, audiological, and Radiological findings. The clinical definition is that it is a white mass medial to normal tympanic membrane with out prior history of ear surgery, perforation and otorrhoea with normal Pars tensa and Pars flacida. Pathology is similar to acquired variety.

Material and methods:
78 ears with congenital cholesteatoma were operated since 1994. One case with bilateral congenital Cholesteatoma. 27 patients presented with different grades of facial nerve palsy. In 1 case, an incidental finding. 5 patients presented with recent one episode of ear discharge due to rupture of tympanic membrane. HRCT of Temporal Bone is mandatory in all cases. The characteristic feature of Congenital Cholesteatoma will be highly cellular mastoid and with various extension from Petrous apex to the middle ear cleft and whole mastoid . Invariably the first ossicles destructed will be stapes, unlike Incus in the case of CSOM. The middle ear mucosa in most of the cases will be very healthy and normal.

Classification of Congenital Cholesteatoma
Type 1: Small intact sac confined to the middle ear but not involving the Ossicles and Mastoid.
Type 2: Lesions involving the whole middle ear cleft without extending into the mastoid with ossicular destruction.
Type 3: Extending into the mastoid with or without facial Nerve palsy.
Type 4: Arising from supralabyrinthine area extending into middle ear or Internal auditory meatus with or without facial nerve palsy.
Type 5: Arising from Petrous apex with facial nerve palsy with dear ear.

Surgical Management:
Depending upon the pathology, for the type 1 & 2 intact canal wall mastoidectomy were done, where as canal wall down mastoidectomy done for most of the cases of type 3 to 5, total 27 cases of facial nerve palsy, in 25 cases facial nerve decompression done, rest of the 2 cases managed with grafting. In dead ear Radical mastoidectomy done. In 5 cases we encountered CSF leak which was well controlled.

OTOLOGY 32 // N° 82
Management of facial paralysis
SHINGO MURAKAMI (Japan),

Bell’s palsy and Ramsay Hunt syndrome are the two major causes of acute peripheral facial palsy, accounting for approximately two-thirds of all cases. Ramsay Hunt syndrome is caused by varicella zoster virus (VZV), while Bell’s palsy is caused mainly by herpes simplex virus type 1 (HSV-1). Compared to Bell’s palsy, severity of facial paralysis in Ramsay Hunt syndrome is worse and its prognosis is poorer, perhaps reflecting the difference in behaviors of VZV and HSV.

Medical treatment of Bell’s palsy and Ramsay Hunt syndrome still remains controversial. Most of the previous studies have shown that treatment with steroids results in better outcomes in Bell’s palsy and Ramsay Hunt patients. However, the use of antivirals, even together with steroids, has been controversial in Bell’s patients; some studies showed positive results while others denied any effect. Early administration of steroids together with an antiviral agent appears to be a key factor in the medical treatment of facial palsy. In the first part of this instruction course, I will show our practical protocol for acute facial palsy, by means of which we have achieved a complete recovery rate of more than 95% for Bell’s patients and 70% for Ramsay Hunt patients.

The role of decompression of facial nerve for Bell’s palsy and Ramsay Hunt syndrome also remains controversial. However, early decompression of facial nerve in selected patients might bring a better outcome. In 1982, Ugo Fisch demonstrated that electrophysiologic responses disappear at the meatal segment of the facial nerve in Bell’s patients, and advocated decompression of the meatal portion. Since then, decompression of the meatal portion via middle cranial fossa approach has gained considerable support from clinical studies. However, I think decompression of the pyramidal segment is also important because this part is the second narrowest portion of the facial canal. Therefore, I believe that a combination approach, where both meatal and pyramidal segments are decompressed, provides the best outcome. In the second part of this instruction course, I will show the details of my combined approach for facial nerve decompression.

OTOLOGY 32 // N° 83
Genetic in otologic in ear diseases
HENRICUS KUNST (Netherlands),

More than 50% of prelingual hearing impairment is genetic, most often autosomal recessive and nonsyndromic. Postlingual hearing impairment is much more frequent than prelingual hearing impairment and has mostly a multifactorial inheritance, although monogenic forms exists with mainly autosomal
dominant inheritance. The heterogeneity in nonsyndromic hearing impairment is high with multiple genes implicated in the pathogenesis. An Age Related Typical Audiograms (ARTA) gives a comprehensive phenotype presentation and is therefore extremely useful. An ARTA can be used to compare the type of hearing impairment, the age of onset and the progression of hearing impairment in relation to the genotypes. An ARTA does not only help in selecting potentially interesting loci for linkage analysis or genes for mutation analysis, but it is also valuable for genetic and individual counseling.

For the most prevalent syndromes the genes have been identified, consequently mutation analysis is available for these patients. However, not all mutations within these genes have been identified or genes themselves are still unknown. In these cases a genetic diagnosis may not be established. Over 130 genes have been identified for the more than 400 genetic syndromes with hearing impairment. The most important recessively inherited syndromes with hearing impairment as a feature are: Usher syndrome, Pendred syndrome and Jervell-Lange-Nielsen syndrome. The most frequently seen dominantly inherited syndromes with hearing impairment are: Treacher Collins syndrome, Crouzon syndrome, Waardenburg syndrome, Stickler syndrome, Branchio-Oto-renal syndrome and the Charge syndrome.

Sensitive audiometric (psychophysical) tests can be used to determine the impact of the affected gene on the function of the inner ear. For various types of genetic hearing impairment the results of cochlear implantation can also be studied. These correlations can be helpful in predicting the outcome of cochlear implants for specific genes.

The molecular biology of the inner ear is being revealed by the identification of many genes that contribute to hearing and balance. That insight and knowledge is even more important since it will provide in time treatment strategies to prevent or stop progression of hearing impairment. It is important to become familiar with this knowledge and to keep up with new developments in the field of molecular biology of the inner ear.

OTOLOGY 33 // N° 84

Usefulness of endoscopy in otology

LIVIO PRESUTTI (Italy)

The role of endoscopy for ear surgery was, initially, reserved to the control of the retrotympanum during microscopic procedure, or for the mininvasive second look after CWU tympanoplasty. Nowadays, with the new knowledge of endotympanic ventilation and with modern optical and surgical instruments, the endoscopica approach is becoming more and more used for the management of many otologic patologies.

Epitympanic cholesteatoma represent the main indication for the endoscopic ear surgery. Infact, with this approach, the surgeon can reach the pathology directly, preserving the mastoid bone (if not involved) and its important function of air reserve. Furthermore, contemporary to the cholesteatoma removal, is possible to explore the intratympanic ventilation route removing the blockage of tympanic, istmus if present and restoring ventilation trough tensor fold. Using angled optic view is possible to explore in a better way the hidden recesses of tympanum, such as sinus tympani and ipotympanic recess, discovering residual cholesteatoma and reducing the percentage of recurrence.

However the endoscopic approach in very useful also for the treatment of other patologies. The treatment of ear drum perforation with endoscopic technique avoid the calibration the bone part of external ear canal and allows a better control of anterior part of the anulus.

During stapes surgery the endoscopic approach allow to visualize directly the anterior crus and is helpful to evaluate eventual chain anomalies simulating the otosclerosis sintomatology.

With develop of the endoscopic ear surgery, exploiting its mininvasive feature and the ability of operate in a closer way to the structures, more surgical procedure will be performed through transcanalar approach with increasing of functional results.
Cartilage palissade tympanoplasty
MANUEL BERNAL SPREKELSEN (Spain), Manuel Bernal-Sprekelsen

Objectives: To show surgical steps, tips and tricks, to harvest cartilage and to perform cartilage palisades for tympanic membrane reconstruction. To evaluate the long-term anatomical and functional results after partial and total autologous cartilage palisade type III tympanoplasties. Evaluate the efficacy in preventing recurrent cholesteatoma using cartilage palisades. To show obliteration of radical mastoidectomies with cartilage and to assess the possibilities of water sports of patients treated like that.

M+M: Slides and videoclips will show the exact steps to harvest cartilage, to prepare the stripes and how to position them in order to achieve a closure of the tympanic membrane. Anatomic and functional results will be discussed, as well as pitfalls.

Cholesteatoma revision surgery
HOLGER SUDHOFF (Germany),

This presentation focusses on recent developments in the treatment of chronic obstructive eustachian tube dysfunction. In Balloon Eustachian Tuboplasty (BET), transnasal endoscopic insertion via the pharyngeal ostium places a balloon catheter in the cartilaginous portion of the Eustachian tube. This is then dilated at a pressure of 10 bar for 2 min. Until January 2013, 351 chronic obstructive Eustachian tube dysfunction patients have been treated in our department using BET. The average preoperative Eustachian Tube Score was 2.1 (±1.8 standard deviation, SD); 12 months postoperatively it was 6.1 (±2.6 SD). Of these patients, 87% expressed satisfaction with the improvement in chronic obstructive dysfunction. These results demonstrate that BET is a safe and effective treatment for improving Eustachian tube function and ear ventilation.

Rehabilitation of trouble mastoid cavities
MATTHEW YUNG (United Kingdom),

The first part of the talk will be on the medical management of discharging mastoid cavities, with particular emphasis on the risk of type IV hypersensitivity due to prolonged exposure of the ears to topical antibiotics and steroid drops.

The main part of the talk is to identify the reasons for discharging mastoid cavities, and the likely surgical findings during revision surgery. The surgical outcome of one hundred and forty (140) revision mastoidectomies will be presented. A variety of techniques is discussed, with emphasis on the use of vascularized flaps in mastoid reconstructions. Over 80 per cent of troublesome mastoid cavities were treated with mastoid obliteration. Concomitant hearing restorative procedures were carried out in one-third of the ears.

The reason for the persistent discharge from the cavities were mainly because of the large cavity size, bony overhang, presence of residual infected mastoid cells, residual of recurrent cholesteatoma or perforations, and/or inadequate meatoplasty.

The outcome of revision mastoidectomy with obliteration was excellent. One year after
revision mastoidectomy, over 95 per cent of the ears had become completely ‘dry’ and water-resistant. Overall, 50.9 per cent of the ears had a 12-month post-operative air–bone gap of 20 dB or less. Majority of the ears had become water-resistant.

OTOLOGY 35 // N° 88
Posturography: techniques, indications, results
PHILIPPE PERRIN (France),

Standing postural control is a complex sensorimotor function requiring central processing of information from the visual, somatokinesthetic and vestibular systems, leading to a context-specific motor response. This response results in stabilization of anti-gravity activity and gaze and adjustment of static and dynamic postures.

The stated purpose of the posturography tests is identification of lesion site and/or definition of functional balance deficits in a specific patient. Therefore, a European group (European Society for Clinical Evaluation of Balance Disorders (ESCEBD)) of experienced users of clinical posturography meets yearly since 2005 in Nancy, France.

Generally two types of posturography are distinguished: static and dynamic posturography. In static posturography or stabilometry, body orientation and body movements are detected while the subject stands on an earth fixed base of support with a fixed orientation with respect to gravity (e.g. quiet stance on a fixed horizontal or tilted platform). Static posturography may study one or two feet stance and evaluate the impact on balance of instruction, mental set and perturbations like visual stimuli, foam support, vibration, galvanic stimulation, etc. In dynamic posturography, the subject is standing on a moving base of support. The term computerized dynamic posturography refers to computer controlled platform movements and perturbations.

To be useful, all balance measuring tools must be scientifically sound in terms of three basic psychometric properties: reliability, responsiveness (sensitivity of change), and predictive validity.

Clinical posturography should be able to identify and quantify the postural and balance inabilities related to deficits and functional loss (vestibular, motor-ability, dizziness in elderly), deformations (orthopedic pathology (e.g. scoliosis, limitation of mobility in joints)), nonorganic diseases, simulation) and guide rehabilitation programs for balance.

OTOLOGY 36 // N° 91
Major Atresia: the therapeutic options
THOMAS SOMERS (Belgium),

In Sweden approximately 150 children per year are diagnosed with aural atresia. Severity of the malformation is highly variable and can engage the pinna, the external ear canal, the middle ear and occasionally the inner ear. Size of the middle ear, anatomy of the round- and oval window, the inner ear and the intratympanic course of the facial nerve assessed with high resolution CT-scan are important for determining surgical candidacy. Surgical correction of aural atresia is one of the most difficult and challenging procedures in reconstructive ear surgery. Postoperative complications such as restenosis and granulations of the ear canal and lateralization of the tympanic membrane are frequently reported. Today surgical reconstruction is increasingly replaced by reconstruction of the pinna in combination with implantation of semi- and full implantable devices for hearing restoration.
Since three decades atresiaplasty surgery has been performed at our clinic. Here long-term surgical and hearing results after treatment of 95 patients were retrospectively evaluated. Indications for surgery and the surgical technique are described. In addition, a Glasgow Benefit Inventory patient’s questionnaire (GBI) was used and evaluated.

OTOLOGY 36 // N° 92

Functional surgery in middle ear aplasia

KARIN STROMBACK (Sweden),

In Sweden approximately 150 children per year are diagnosed with aural atresia. Severity of the malformation is highly variable and can engage the pinna, the external ear canal, the middle ear and occasionally the inner ear. Size of the middle ear, anatomy of the round- and oval window, the inner ear and the intratympanal course of the facial nerve assessed with high resolution CT-scan are important for determining surgical candidacy. Surgical correction of aural atresia is one of the most difficult and challenging procedures in reconstructive ear surgery. Postoperative complications such as restenosis and granulations of the ear canal and lateralization of the tympanic membrane are frequently reported. Today surgical reconstruction is increasingly replaced by reconstruction of the pinna in combination with implantation of semi- and full implantable devices for hearing restoration.

Since three decades atresiaplasty surgery has been performed at our clinic. Here long-term surgical and hearing results after treatment of 95 patients were retrospectively evaluated. Indications for surgery and the surgical technique are described. In addition, a Glasgow Benefit Inventory patient’s questionnaire (GBI) was used and evaluated.

OTOLOGY 37 // N° 97

Personal experience in cochlear implant

MICHAL LUNTZ (Israel),

The course is aimed at presenting an overview of the up-to-date state of cochlear implantation intervention [candidacy evaluation, evolvement of surgical technique in different anatomic situations, rehabilitation challenges, outcomes including device non-use, device failures and re-implantation outcome as well as implantation in special groups, bimodal hearing (combination of a cochlear implant and a hearing aid) and bilateral cochlear implantation] based on 20 years of personal experience as a cochlear implant surgeon and 16 years experience as the director of a cochlear implant program in an environment where cochlear implantation has been fully implemented by the Ministry of Health as a standard procedure for hearing rehabilitation of individuals with severe - profound hearing loss who do not derive enough benefit from hearing aids, and the number of implants is not limited, leading to equal accessibility to the technology for individuals of different socioeconomic status groups, referral area is relatively small geographically (thus allowing for close follow up and in depth understanding of longer term consequences), yet includes populations with a high rate of genetic hearing loss and a wide range of inner ear malformations (due to a strong tradition for interfamilial marriage), and high rate of recurrent acute otitis media, simple chronic otitis media and cholesteatoma accompanied by profound hearing loss.

The course will focus on surgical techniques in challenging surgical cases: hearing preservation; severe, yet implantable cases with inner ear malformations; cochlear obliteration in otosclerosis; and implantation in the various severity levels of chronic otitis media and cholesteatoma, decisions for implantation in asymmetric hearing loss in regard to outcome predictability, candidacy evaluation of the straightforward and the non-straightforward candidate (very young babies, individuals with high level of residual hearing and asymmetric hearing loss, adolescents, elderly candidates), factors determining successful outcome in the various challenging candidate groups, factors which limit a wider distribution of the technology and what can be done to overcome these drawbacks.
The retrolabyrinthine or infralabyrinthine approach for the internal acoustic meatus and posterior fossa was first described by Hitsuelpurger & Pulec in 1971 for functional surgeries as vestibular neurectomy. We will present in this course our experience in using this approach in tumors of the internal auditory canall and posterior fossa and in brain stem auditory implants in adults and children. All the surgical technique and mainly complications will be showed (transmastoid approach, with preservation of the semicircular canals, sigmoid sinus retraction and internal auditory meatus and posterior fossa approach). With this approach was possible to preserve hearing with almost all cases with facial preservation and it is a very good approach for brain stem implants with minimal morbidity for children.

Abstract
The indication range for implantable hearing devices such as cochlear implants (CIs) or active middle ear implants changed over the last decade dramatically. The introduction of electro acoustic stimulation (EAS), CIs in single-sided deafness, and CIs in patients with cochlear malformations are just a few examples for recent developments in this area. These devices are beneficial for most patients when a sophisticated evaluation is performed pre-operatively and the most suitable device is picked by the cochlea implant team for each individual case.
We will present some interesting cases and discuss different options to restore hearing in patients with implantable hearing devices. We will present the post-operative outcome and want to discuss our experiences with the audience who might have had patients with similar conditions or different pitfalls.

The Baha (bone-anchored hearing aid) is a system of osseointegrated acoustic amplification composed of three main elements: a titanium screw implanted in the bone behind the ear, a connection element, and a removable external digital processor. Tjellstrom and Granstrom first introduced it in clinical practice in Sweden in 1977, and after a series of ups and downs patients with pathologies of the outer or middle ear marked by conductive or mixed hearing loss the Baha system gradually emerged as a very valuable aid for rehabilitating. More recently, other types of bone conduction hearing implants were introduced, such as Ponto by Oticon Medical, Alpha1 and Alpha2 by Sophono and Bonebridge by MedEl.
Conductive or mixed hypoacusis can be treated medically, surgically or with traditional hearing aids in the event of forms with permanent hearing loss. Nevertheless, there is a large group of patients who, for various reasons, fail to respond to medical treatment, or who cannot or do not want to undergo surgery and cannot tolerate traditional air- or bone-conduction hearing aids. With these patients, the application of a bone-anchored hearing aid is the natural solution to their hearing problems.
For example, in patients with aural atresia the results of surgical treatment are often less than brilliant and frequently transitory. Likewise, the functional results of surgery for chronic otitis are often unsatisfactory for the patient, to the point that in many cases a hearing aid is necessary regardless.
Moreover, conventional bone- and air-conduction hearing aids are not entirely problem-free. Bone conduction requires strong pressure by the transducers behind the ear, and this can cause local irritation, itching and, in some cases, headaches. Furthermore, the transmission of sound is muffled by the soft tissues. In cases in which air-conduction hearing aids can be used, these aids can also cause problems, as they can lead to local infections in the middle ear and the external auditory canal.

Applying a hearing aid to an osseointegrated implant thus makes it possible to avoid the most common problems presented by traditional aids. The aim of this course is to present the main characteristics of the most common bone-conduction hearing implants, going on to discuss audiological results, patient satisfaction and rate of complications.

OTOLOGY 40 // N° 104

Vestibular rehabilitation

MUGDHA WAGH SHAAN (India),

A brief overview
- The basic functioning purpose of the vestibular system
- A brief on anatomy and neuronanatomy
- Vestibular reflexes and cervical reflexes
- Vestibular system disorders-
  - Vestibular neuritis,
  - Motion sensitivity
  - Meniere’s,
  - BPPV
  - Vestibular Paroxysmia
- Therapeutic diagnosis of Vestibular System Dysfunctions pertaining to pediatric and adult population

- Therapy assessments
- Treatments
  - For Pediatric population
  - For Elderly population
- Treatment Modalities
  - Sensory Integration [S.I.]
  - Neuro Developmental Therapy [NDT]
  - Proprioceptive Neuromuscular Facilitation [P.N.F.]
  - Brain Gym exercises
  - Bal-A-Vis-X
  - Gaze Stabilization
  - Postural Stability
  - Progressive Resistive Strengthening

OTOLOGY 40 // N° 106

Somatoform and psychogenic vertigo- how to diagnose and treat these common patients

MIKAEL KARLBERG (Sweden),

A somatoform disorder is characterized by symptoms that suggest a physical disorder but such a disorder can not be found despite thorough medical investigation. A psychogenic disorder is characterized by physical symptoms that are secondary to a primary psychiatric disorder. In psychogenic vertigo this is usually a panic disorder with or without agoraphobia.

Somatoform and psychogenic vertigo and dizziness are, second to BPPV, the most common causes of persistent dizziness. The terms phobic postural vertigo and chronic subjective dizziness both refer to these entities. As these patients communicate dizziness and vertigo instead of anxiety, they will be referred to specialists concerned with balance disorders, usually otolaryngologists or neurologists. As there is “nothing wrong” with them, they will go from specialist to specialist in order to get a diagnosis and find a cure.

The diagnosis is made by thorough clinical investigation, neuroradiology, vestibular testing and psychometry (for example the Hospital Anxiety and Depression Scale). The thorough investigation and information about the cause of the problem is the most important part of the treatment. By self-treatment with a combination
of vestibular rehabilitation and cognitive behavioural therapy, the patient usually becomes symptom free. In more long-standing cases, and especially when there are signs of anxiety and depression, SSRIs (sertraline or citalopram) are usually of striking benefit for the patient.

In this instructional course I will present the epidemiology and the suggested pathophysiological mechanisms behind the disorders. I will present our own and other’s studies on diagnoses, differential diagnosis and treatment.

**Inside/outside technique for cholesteatoma**

*KISHAN P. MORWANI (India),

Acquired cholesteatoma is a disease that starts at Prussack’s space i.e. part of anterior attic and from attic it spreads to various parts of middle ear, mastoid antrum, mastoid air cell system and rarely beyond the boundaries of mastoid bone.

Creating a cavity in every case of cholesteatoma is easily avoidable by performing the surgery by Inside out technique. Disease limited to attic or antrum can be removed en-block like malignant tumor by Inside out technique and outer attic/ attico antral wall can be reconstructed. Thus the end result is a widened canal.

In our opinion, outside in mastoidectomy is a primitive procedure and should be abandoned totally as it is against the basic surgical principle i.e. to plan incision or exposure of part of body from location of site of the disease.

In case of low lying dura and forward sigmoid sinus, the chances of damaging these structures are high by outside in technique and these structures may also hamper complete clearance of disease by Outside-in technique by junior surgeons. Inside out Mastoid is superior approach in this situation.

Post mastoidectomy, the commonest location of injury to facial nerve among the junior practitioner’s are 2nd genu and horizontal portion of facial nerve beside vertical course. The advantage of Inside out technique is, one identifies the tympanic segment of facial nerve right in the beginning of the procedure and it can be easily traceable to 2nd genu and further to vertical course. Thus the chances of damaging the facial nerve by this technique is much lesser than outside in technique. I am going to share our experience of last 3 decades of performing 4000 cases of cholesteatoma by this technique.

**Extended cholesteatoma**

*JURAJ KOVAL (Slovakia), Krempaská Silvia

Extended cholesteatoma is a cholesteatoma which is not limited only in the middle ear but may affect also the petrous bone, pontocerebellar angle, infratemporal space and occipitotemporal region. For its removal lateral skull base surgical techniques must be used themselves or in combination with otologic techniques.

In the years 1999-2011 we operated 685 cases of cholesteatoma including 26 cases of extended cholesteatoma, i.e. 3,4% of the series. The surgical procedures for solving the problem of extended cholesteatom of our series are:

- Transmastoid + middle fossa staged surgery 8
- Middle fossa 2
- Cholesteatoma and brain herniation – middle fossa 2
- Transmastoid subcochlear staged surgery 4
- Transotic (TB 2, TB+clivus 1) 3
- Transotic (TB+PC angle invasion) 1
Several well documented cases demonstrating all approaches for the removal of extended cholesteatoma in the series make a good base for discussion.

Endolymphatic sac decompression results

HANS PETER ZENNER (Germany),

Endolymphatic sac decompression is an approach to treat Menière patients suffering from severe vertigo attacks. Prior indication of surgery usually drug treatment has been performed. Drug treatment may include diuretics, betahistin, or local application of gentamycin.

Along lasting debate whether saccus decompression or saccotomy belongs to evidence based medicine accompanies this kind of surgery.

Recent investigations, however, of published data suggest, that saccus decompression and saccotomy fulfill the requirements of evidence based medicine according to the Oxford Institute of evidence based medicine.

Canal Wall Reconstruction in tympanoplasty for Cholesteatoma

ALAIN ROBIER (France), Allan ROUX, Jean-philippe COTTIER, Emmanuel LESCANNE, David BAKHOS

Objective: To evaluate the residual cholesteatoma and the recurrence cholesteatoma rate following canal wall reconstruction (CWR) tympanomastoidectomy with mastoid obliteration in the treatment of chronic otitis with cholesteatoma. Study design: Consecutive cohort study. Patients and method: We performed a CWR tympanomastoidectomy for surgical removal of cholesteatoma with a mastoid obliteration from 2008 to 2012. All the patients had mastoid obliteration with hydroxyapatite. We included only the patients with temporal bone computed tomography at least 9 months after the procedure and a second look at least 10 months after the procedure. We analyzed the rate of recurrence and residual cholesteatomas, rate of local infection and audiometric results at one-year post-operatively for these patients. Results: Twenty-eight consecutive ears were included. Mean postoperative time between the CWR with mastoid obliteration and the second look was 16.8 months (range 10.1 to 28.1 months). CT scan displayed an opacity considered as a risk of residual or recurrence cholesteatoma in 24.4%. Surgical rate of residual was 7.1 % (2 patients). No recurrence was observed surgically. Ossiculoplasty was done in 9 cases. Postoperative infection rate was 25%. All the patients with infection with medically treated with success. No conversion to a canal wall down mastoidectomy was performed. Three patients were fitted with hearing aids. Postoperative bone conduction level was kept in the 3 dB range. Conclusion: CWR tympanomastoidectomy is a safe technique and permits to improve the cholesteatoma exposure and the reliability of the removal. The rate of residual cholesteatoma had decreased with this procedure.

Keywords: cholesteatoma, canal wll reconstruction, obliteration
Retractions in the ear drum may be classified in different ways, according to the affected area and considering where the retraction is heading to.

If the retraction affects the pars tensa and it is directed towards the promontorium, we will call it ear drum atelectasis, according to the classification by Jacob Sade, and this has been described in five clinical stages. If the retraction affects the pars tensa and it is directed towards the posterior part of the middle ear, it will be defined as retraction pocket formation, which may, in turn, be classified as small, large and cholesteatomous. If the retraction affects the pars flaccida, its denomination will be attic retraction pocket, which is subclassified as micrometula, metula, and macrometula.

We propose how to diagnose these conditions, being our main approaches the use of ear microscopy and endoscopy. The structural alterations that the eardrum must undergo for the formation of retractions are described, together with the mechanisms leading to low pressures found in the middle ear.

Lastly, therapy approaches are described, including drug therapy, instrumental procedures, and surgery.

The different options for surgical management are described, emphasizing the role of tympanoplasty with cartilage.

The course describes the indications and techniques for the retrosigmoid approach as performed by the “Otology and Skull Base Surgery Dept.” at the University Hospital of Siena. The authors present background of the retrosigmoid approach, surgical steps, and essential "technical pearls" to address complication avoidance.

Bremond and Magnan in 1974 reported the “Retrosigmoid approach – a minima –” that become popular and available among the ENT specialists. Before that date the sigmoid sinus was the border between the neurosurgeons and the otologists to approaching the cerebello-pontine angle: the posterior fossa (retrosigmoid) was the way exclusively reserved to the Neurosurgeons. There is still a little of confusion in terminology: any case, in practice we use the term “retrosigmoid” when the patient is in supine position, more common among the otologists, while “sub-occipital” when the patient is positioned in sitting or semi-sitting position, exclusively used by neurosurgeons.

In the last decade the Author have worked either in otologic as in neurosurgical department acquiring knowledge and experience on both surgical field, with the refinement of the different approaches. Practical advantages of the retrosigmoid approach: -minimal cerebellar retraction -minimal manipulation of the cerebellar hemisphere -shorter procedure, advisable in every case of “functional” surgery: vestibular neurotomy, neuro-vascular decompression. Disadvantages of the retrosigmoid approach: -the need for an anesthesiologist well trained in this approach -limited surgical handling in case of patient with short/stiff neck-non advisable for very large tumor

Advantages in sub-occipital approach: -blood and CSF drain away from the operative side-easier opening of cisterna magna /especially in case of very large tumors. Disadvantages:-cerebellar compression (spatula)-air embolism (rare but life-threatening complication)
Otitis media with effusion: many names and many treatments

PAVEL DIMOV (Bulgaria).

Introduction: The otitis media with effusion (OME) is common otological disease at the children and at the adults. This disease is more popular and it has many names as: otitis media with effusion, chronic serous otitis media, glue ear, secretory otitis media, middle ear, etc.

Historical data for the development of scientific researches of the disease is presented. Many etiological factors can play important role for injuries of the middle ear mucosa. These pathological factors can cause and develop pathological changes and processes. The result of that is the dysfunction of the Eustachian tube. This dysfunction (obstruction including torus tubarius) can cause hyperplasia of adenoids and tonsils, chronic regional infection and allergy of upper respiratory tract as chronic tonsillitis, chronic rhinitis, chronic sinusitis, chronic pharyngitis and foods. Less met factors but more grave are the epipharyngeal tumors, oropharyngeal malformations etc. Finally all causal factors lead to pathological changes in middle ear mucosa – short-term and long-term dysfunction or obstruction of the Eustachian tube, negative pressure in the middle ear cavities, hypertrophy of lymphatic tissues and hyper production of effusion (serous or mucosal) from the secretory cells.

Object: A study over the otitis media with effusion (OME) is done. The purpose of the studies offered is to acquaint specialists with the management of chronic otitis media with effusion.

Material and Methods: 391 patients with OME (205) and chronic supportive otitis media (CSOM) (186) were observed during the last 20 years. The classicall methods of examinations were used: medical history, status, audiometry, tympanometry, immunohistochemical, image diagnostics (Shuller’ x-ray examinations and Tos’ planometric method (155) for size of mastoid pneumatization, computer tomography, magnetic resonance), otoendoscopy were done. The updated etiopathogenesis, methods of diagnosis and preparation of the patients for operation are discussed on the background of a detailed description of the various ventilating tubes and operative approaches used.

The conservatives and operative methods of treatment were done. All the methods for a local surgical treatment are presented in details: as a myringotomy with aspiration, tympanostomies etc. Methods for tympanostomy with ventilating “T-tube” for a long-term ventilation are brought into use at OME’ treatment.

Regional operative treatment: adenoidectomies, adenoidectomies with tonsillectomies, tonsillectomies were done. For treatment (conservative, operative) there were introduced in clinical practice individual strong indications of each OME sick patients. The tympanostomies were applied after indications for short-term and long-term durations. Local and general anesthesias were used.

Results: On 46 % of patients was applied conservative treatment. 92% of mastoids were with small and without pneumatization after Tos’ planimetric method of examination. Local surgical approaches were done: 132 ears were under myringotomy and aspirations; 38 ears for short-term ventilation (average 18 weeks) were done with grommets. For long-term ventilation (average 31 weeks) 45 T-tubes were applied. More complications with the grommets than t-tubes were found. Regional surgical approaches were applied: adenoidectomy (34), tonsillectomies (8), adenoidectomy+tonsillectomies (18), correction of septum nasi (7), sinus maxillaries punitions (8).

The functional average value results were found: conservative treatment before/after ABG = 29,71 dB/21,41 dB; myringotomy+aspiration before/after ABG = 30,84 dB/14,63 dB; grommets before/after ABG = 36,81dB/14,17 dB; t-tube tympanostomy before/after ABG = 29,33 dB/11,42 dB; regional surgical approaches before/after ABG = 29,05 dB/12,22 dB; all groups of treatment before/after ABG = 30,38 dB/16,81 dB. These functional results were comprised with CSOM (open,closed techniques and tympanoplasties). The OME’ ABG operative patients were better than CSOM’ ABG patients after 1 year follow up study.
Conclusion: This study confirms that our individual indications of each patient are guarantee for success of OME' treatment procedures (conservative and operative) for this disease. Our functional results are good in comparison with CSOM group of patients. In the history of OME, there were many names and many kind of treatment but finally the success of hearing function we can received only after strongly individual indication rules and notes. The results received are comparable with those of leading otosurgeons at home and in the European Union (EU). A qualification is pursued throughout contemporary forms and instruments of education, compatible with the rules and requirements of EU.

Key words: Otitis Media with Effusion, Tympanostomy, Operative Treatment, Qualification

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OTOLOGY 46 \ N° 118
Auditory neuropathy
Saba Battelino (SLOVENIA ), Dusan BUTINAR

Background
The auditory neuropathy was first described in last decade of the 20 century. It was focused also in the combination with cochlear implants.
Auditory neuropathy is a hearing disorder caused by an impairment of auditory nerve function in the presence of intact cochlear outer hair function. Also other sensory and motor peripheral neuropathy can be detected in some patients. Several of these patients have an associated hereditary motor and sensor neuropathy (HMSN). The patients with auditory neuropathy have absent or profoundly abnormal auditory brainstem responses. They have preserved cochlear receptor functions represented by microphonic potentials generated by both inner and outer hair cells. Preserved motility of cochlear outer hair cells resulting in faint sounds and otoacoustic emissions can be recorded within external ear canal. Patients with auditory neuropathy have elevations of pure tone thresholds that can vary from mild to severe or even to deafness. However, auditory perceptions dependent on the processing of temporal cues of acoustic signals are particularly affected with markedly impaired speech perception that is out of proportion to the pure tone hearing loss and impaired localization of the sound sources.

Patients and Methods
A Gypsy family from Slovenia with three affected family members will be presented where also hearing loss with severe impairment of speech understanding was detected. The clinical, genetically histological and neurophysiologic findings will be discussed. We will report on two families with Charcot-Marie-Tooth disease having Type 2 axonal neuropathy without symptoms of hearing impairment. Both families were identified as having dominantly inherited disease genetically localized to 8p21 locus. We found that the disease in one family is associated with the neurofilament light (NF-L) Pro22Ser mutation and in the other family with the (NF-L) Glu397Lys mutation. Both families have comparable peripheral nerve involvement but only one family had an asymptomatic involvement of auditory nerve. Also the young girl, implanted with cochlear implant at the age of four, diagnosed with auditory neuropathy will be presented and discussed.

Conclusion
Patients with hereditary motor and sensor neuropathy can have auditory neuropathy with clinically evident hearing loss. Auditory nerve involvement in the presence of normal cochlear outer hair cell activity is asymptomatic in one of two families with Charcot-Marie-Tooth disease with different point mutations of the NF-L gene. The nerve disorder is consistent with altered synchrony and slowed conduction. Auditory neuropathy still remains interesting for clinicians and as well for basic research scientists.

OTOLOGY 46 // N° 119
**Canal-wall down mastoidectomy reconstruction with anterior-inferior based postauricular periostal flap**
*Ali SERTAC YETISER (Turkey)*,

Major disadvantage of the canal wall mastoidectomy is the continuous need for cavity care although the incidence of recurrent and resive cholesteatoma has been reduced as compared to canal wall-up technique. Spontaneous clearance function of the radical cavity is low and the cavity is often times wet, therefore is prone to develop discharge. Some of the surgeons who plan to drill out the posterior bony wall to remove the cholesteatoma completely have major concerns to do smaller cavities without opening all diseased mastoid air cells not to lead to healing problems of a large cavity in the postoperative period. However, the cavity infection also jeopardizes the long-term benefit of ossicular reconstruction no matter how well-adapted, most recent prosthesis has been used. Therefore, the understanding of a “safe ear” for canal wall-down cavities not only includes the cholesteatoma issue but also covers the stability of the cavity. Mastoidectomy with anterior-inferior based postauricular periostal flap reconstruction and wide meatoplasty is introduced. The technique will be presented and discussed in detail in every aspect.

OTOLOGY 48 // N° 122
**Indications and techniques for cholesteatoma surgery.**
*AMIR MINOVI (Germany), Dazert Stefan*

In this instructional course our strategy of staged cholesteatoma surgery is presented. In our department we usually use the inside-outside technique for the removal of cholesteatomas. By drilling the lateral attic the cholesteatoma is exposed and followed until its posterior region can be visualized. Depending on the removed portions of the attic, either it is reconstructed or a canal wall down procedure with an open mastoid cavity is performed. In special cases such as an involvement of the foot plate or an infiltration of the facial nerve a second look surgery is mandatory. The indications and techniques of our cholesteatoma surgery concept are further discussed.

OTOLOGY 48 // N° 123
**How to prevent postoperative recurrent cholesteatoma: a new concept**
*HARUO TAKAHASHI (Japan), Shin-Ichi Haginomori*

This course will first present the mechanism of middle ear pressure regulation through the Eustachian tube and mastoid mucosa (transmucosal gas exchange). It will then document how transmucosal gas exchange influences the postoperative condition of the middle ear and mastoid, and explain the importance of preservation of transmucosal gas exchange during cholesteatoma surgery for preventing recurrence (re-retraction). Next, it will introduce a novel technique for cholesteatoma surgery: canal wall-down tympanoplasty and soft-wall reconstruction (CWD & SWR), in which only a piece of temporalis fascia is used to reconstruct the external auditory canal (EAC). This procedure is characterized by preservation of an
almost normal EAC shape in ears with postoperative recovery of mastoid aeration, whereas a retracted posterior EAC wall (like a radical mastoid cavity) with its self-cleaning function is observed in ears without recovery of mastoid aeration. The rate of postoperative recurrent cholesteatoma in ears treated with this technique is lower than those using canal-wall-up, and the rate of cavity problems in ears treated with this technique is lower than those using CWD and open techniques. The soft EAC wall can cope with the unpredictable postoperative recovery of mastoid aeration. Step-wise illustration and video of the technique will be presented.

OTOLOGY 48 // N° 124

**Revision surgery in cholesteatoma**

NICOLA QUARANTA (Italy),

The aim of this Instructional Course is to present the rationale and the surgical technique of revision tympanoplasty. During the course the indications for revision surgery, the pre-operative work-up, the surgical technique and the follow-up will be described.

The surgical techniques will be shown with the aid of drawings and video clips.

OTOLOGY 48 // N° 125

**Cholesteatoma management**

SUGATA TAKAHASHI (Japan),

Canal wall down tympanoplasty with mastoid obliteration for aural cholesteatoma has been performed in our hospital to prevent residual and recurrent cholesteatoma. After complete eradication of a cholesteatoma by canal wall down technique, the dissected bony canal wall is reconstructed and the eradicated mastoid cavity is obliterated. As the reconstructive materials of this technique, autograft cortical bone pate is utilized for canal wall reconstruction and bone chips for mastoid obliteration. We have obtained low recurrence rate and fine postoperative ear canal condition of cholesteatoma surgery by this technique. At the early stage of mastoid bone drilling, healthy bone chips and bone pate are harvested. The bone pate is fixed into a plate of about 3mm thickness by a fibrin adhesive and compressed into a 2mm-thick bone pate plate. The bone pate plate is able to be positioned smoothly for canal wall reconstruction. The pate plate is particularly useful to reconstruct the dissected canal wall and covering the obliterated mastoid cavity.

Canal wall down tympanoplasty with mastoid obliteration using autograft cortical bone for aural cholesteatoma can achieve rarely recurrence rate of cholesteatoma and steady postoperative auditory canal condition.

OTOLOGY 49 // N° 129

**Pediatric Auditory Brain stem implants - experience from India**

MOHAN KAMESWARAN (India),

Auditory brain stem implants (ABI) have been used for hearing restoration after tumor excision in neurofibromatosis type II (NF-2) patients with bilateral vestibular schwannomas over the past decade. The indications for ABI have recently expanded onto the pediatric population (non-tumoral cases), such as children with congenital bilateral cochlear nerve aplasia / hypoplasia, complete cochlear ossification and Michel’s aplasia of the cochlea. In such cases, the ABI helps bypass the non-functioning cochlea / cochlear nerves and stimulates the cochlear nucleus directly thereby restoring auditory sensation. ABI surgery is sophisticated and requires a team effort involving the neuro-otologist, neuro-surgeon, neuro-anesthetist and the implant audiologist. The implant is placed in the lateral recess of the fourth ventricle adjoining the dorsal cochlear nucleus. The ABI needs to be switched-on and programmed with precaution under medical
surveillance with cardiac and cranial nerve monitoring in order to avoid inadvertent brainstem stimulation induced complications. Habilitating children with ABI requires intensive effort from auditory verbal habilitationist’s combined with untiring dedication from the child’s parents, in order to obtain the anticipated outcomes. This instructional course will highlight the current indications, candidacy, implant characteristics, surgical technique, electrophysiological monitoring protocols and post-operative issues related to pediatric auditory brainstem implantation. The author will share his experience with implanting such children and discuss the results and outcomes of his series along with references from world literature.

OTOTOLOGY 5 // N° 14
Retractions Pockets: How to deal with?
IBRAHIM HIZALAN (Turkey)

Retraction pockets are very important in the development of sequelae and complications arising from the middle ear, specially important in the probable formation of cholesteatoma. There are a lot of questions to answer: development of retractions and middle ear ventilation failure are due to a failure of ET ventilation? or a failure of gas exchange mechanisms? What is the role of the mastoid pneumatization?

Many propositions are done to classify retractions. The classifications must provide a more accurate indication of potential problems and management difficulty: stage of disease, clinical sequelae and technical difficulty at surgery.

Our personal evaluation of retraction begin by stating the localization of the retraction. We think that, this is important from clinical and morphological points of views. The postero-superior quadrant is of prime importance because it represents the 28.7% of the total area of the ear drum and is largely exposed to pressure changes. The retractions of the postero-superior quadrant of the tympanic membrane are of greater incidence and may lead to marginal perforations which may be at the origin of a cholesteatoma.

For a short clinical evaluation of retractions, most used criteria may be the following statements:
1- Is the bottom of the pocket visible? Stage I
2- What is the depth of the pocket? Is there any contact? Stage II
3- Is the pocket fixed? Stage III
4- Does the interior of the pocket indicate any wetness, irregularity, debris; Stage IV

Some retractions may progress and may lead to retraction pockets, adhesion, bone erosion and/or accumulation of debris; and the retraction pocket can develop into a cholesteatoma. Contrary to this, some other retractions may remain stable for years or may resolve spontaneously. Should there be any difference in our clinical attitude between a cholesteatoma and debris accumulation? Is it important that debris may be cleaned or not by suction? There may be a lot of different comments on this subject but, to our opinion a retraction pocket which may not be cleaned by suction, accompanied by proliferation, or accompanied by bone resorption may point a cholesteatoma.

Clinical evaluation of an ear with retraction should cover an oto-microscopic and oto-endoscopic examination; an audiometric and tympanometric evaluation; statements about mobility, self-cleaning property, being intact or perforated, erosion at the bony annulus, formation of an Herodion. A computerized multi-sliced tomography may be indicated in questionable cases like in the presence of an erosion at the bony annulus, deep and invaginated retraction, suspicion of a cholesteatoma, symptoms of fistula; or, in case of an operation is planned on the only hearing ear.
In stage III tensa retractions, according to the related hearing loss and/or recurrent wetnesses, a topical management, suctionning or a re-inforcement surgery may be advised. In stage III attic retractions usually an atticotomy and a cartilage reconstruction will be the surgery of choice.

**OTOLOGY 5 // N° 15**

**Comprehensive Darwinian approach to the function of hearing**

**RUDOLF KUHWEIDE (Belgium),**

Sound is wave-carried particle motion. Across wildlife hearing is based on a tympanum receiving pressure waves, that are amplified by the surface ratio and on a labyrinth, that filters particle motion by having a pressure relief mechanism. Applying this to humans clarifies why a third window causes predominantly low frequent hearing loss and reveals bone to be brain soft tissue conduction. Bone conduction is a relic from our fish inner ear. As a tetrapod relative, coelacanth is the only fish with alleged basilar papilla and perilymphatic duct. Amphibians and primal reptiles illustrate how reliable pressure relief allowed for vibroception as a key step to tympanic air-borne hearing. The middle ear was a dual climate spin-off. A sudden oxygen drop led to the spiracle as a short-lived breathing way and the stapes as a vibratory rod, while the fusion of all land would end up selecting the full tympanic ear with a columella and open tube. It provides excellent directional sensitivity in a narrow high frequency range.

Why tubal closure compelled mammals to an outer ear for directionality or to the mastoid space, why they evolved an ossicular middle ear from instead of behind the jaw joint and eventually also why their inner ear excels in discrimination by combining coiling with electromotile hair cells, fits in growing evidence of mammals surviving the dinosaur age and the asteroid by seeking refuge underground while feeding overground. A basilar membrane function in shunting rather than tuning emanates from the developmental role of the perilymphatic duct in pressure relief and the latest in vivo imaging techniques showing outer hair cell action to precede ‘traveling wave’-wise shunting embrace this Darwinian look on hearing.

**OTOLOGY 50 // N° 130**

**Changing our mind on tinnitus**

**RENE DAUMAN (France), Dauman Nicolas, Damien Bonnard**

Many attributes, the conscious perception of a sound that doesn’t exist in the individual’s environment, are still solidly anchored in professionals’ mind, such as its perception in silence, its resemblance to external sounds, its low intensity as compared to hearing threshold at pitch match, its assimilation to a stimulus in pathophysiological models, the inter-individual variability of its impact on daily life that can be easily demonstrated by questionnaires, its proneness to habituation, its sensitivity to cognitive behavioral therapy. While none of these statements is entirely wrong, each of them can be argued as being excessively simple, hard to generalize or contradicted by individual reports. Other aspects, in contrast, are seldom investigated, e.g. (a) Do intra-individual variations in tinnitus intensity exist and, if so, how are they taken in account in questionnaires? (b) Is there a criterion (for instance a minimal change in a questionnaire score) that, by itself, allows a therapeutic procedure to be considered as consistently effective? (c) Why do so many prospective and double-blind protocols fail in demonstrating clear superiority over placebo?

**OTOLOGY 50 // N° 132**

**Electric stimulation in Tinnitus**

**BRUNO FRACHET (France), Dan Gnansia, Vincent Pean**

Currently the management of tinnitus is performed along two axes: improving tolerance and eliminating truly tinnitus.
The first axis is based on mental methods. The second is currently failing. Of course, there is masking, but true progress would be the disappearance. The current target includes patients who are on the same ear, both deaf and having tinnitus. For these people, we can offer invasive methods with an acceptable risk-benefit ratio. In addition to "in situ injections" inside the cochlea, the electrical stimulation is promising. The goal is to mask the tinnitus in this deaf ear, but also for their disappearance, to find coding for silence. The conventional cochlear implant begins to be used, but in protocols. It has the advantage of compensating also the sided deafness. But this indication faces the difficulty of financing authorities: costs and volume of target population, existing alternatives ... the authors present, from clinical cases, the discussion about these electrical methods, single-channel or multichannel stimulation.

OTOLOGY 51 // N° 134
Decompression of facial nerve in acute facial paralysis: when, why, how.

ARNAUD DEVEZE (France),

The integration of genetics within the field of medicine holds a great potential value for a better understanding of the complex relationship between heredity and environment, and its consequences for health maintenance, disease development and personalized treatment. Understanding the genetics involved invoice related diseases can help target medicine development for more specific and efficient treatment. Ideally it will be possible to give patients a personalized treatment based on their unique genetic profile.

The human genome has been sequenced, and functions of the genes have been assigned. Still the genetic background behind predispositions to vocal diseases is not well understood. Methods available for finding candidate genes and demonstrating the effect of these candidate genes include modern sequencing platforms, microarrays, high-throughput sequencing techniques, gene transcript profiling, proteomics and nutrients/metabolite analysis. All these methods should be they key tools in achieving the developments in personalized treatment and predicting the rehabilitative process in voice.

Establishing and managing databases are further tools to retrieve, visualize, validate, interpret and cross-correlate these data. The implementation of genetic aspects is a complex but promising new approach to the further scientific progress in the field of voice.

OTOLOGY 51 // N° 135
Facial palsy due to otologic diseases

DRAGOSLAVA DJERIC (Serbia),

Facial paralysis can result from various etiological factors as viral and bacterial infections, trauma, granulomatous disorders (both infections and non-infections), metabolic-endocrine disturbances, tumors, and others. The peripheral facial paralysis is a diagnostic challenge. Every effort must be made to determine the etiology since often a treatable cause can be found. The differential diagnostic possibilities are numerous. However, the high rate of failure to identify a specific cause might discourage one from taking the time required to make an accurate diagnosis. Diagnostically, the purpose is to identify cause of acute facial palsies and to avoid misdiagnosis by the referring doctors as Bell's palsy. The purpose our presentation is to present most common otologic diseases in etiopathogenesis of facial paralysis, clinical manifestation of palsies, differential diagnosis by history, physical findings, laboratory results, radiological findings and others tests. On the basis of personal experiences and data from literatures, we suggest on possibilities of avoiding errors in this field.
Facial nerve surgery and zygomatic root approach
TUNCAY ULUG (Turkey),

This presentation consists of 2 parts. In the first part, a review of the the main facial nerve surgery techniques, i.e. transmastoid approach, middle cranial fossa approach etc., will be presented. In the second part, with comprehensive digital videos taken during live operations, the ‘Zygomatic Root (ZR) Approach’ procedures will be demonstrated. The technique is based on drilling of the zygomatic root area extensively, so that the perigeniculate area is exposed through the created space between the middle cranial fossa basal dura superiorly and the skeletonized external auditory canal inferiorly. The ZR approach can be performed as an isolated technique, which is called ZR isolated approach, or as a combined technique - with an inferior mastoidectomy protecting the bony bridge in between-, which is called ZR combined approach.

VII- XII anastomosis
VINCENT DARROZET (France),

The goal of this course is above all to become more familiar with this technique of facial nerve rehabilitation we described in 1996, which preserve the tongue mobility and therefore could be performed on both sides (NF2). To reach this goal we will:

- Draw precisely the different stages of this technique of side-to-end hypoglossal-facial anastomosis, using an intratemporal facial nerve rerouting to obtain a sufficient nerve length to achieve a tension-free nerve suture. Videos will be presented and commented upon.
- Expose the indications of this sophisticated technique with regard to Timing of nerve section
- Patient’s age and occupation
- Patient’s history
- Compare the results obtained with those of the classical end-to-end technique which is usually the gold standard in facial nerve rehabilitation, looking at:
  - tongue mobility and troubles in speaking, chewing, swallowing
  - and facial nerve function
- Show videos of short, mid-term and long-term results of this technique, highlighting evolution with time of facial motion recovery and the need of a specific rehabilitation program
- Compare with results after facial nerve grafting in the CPA
- Expose our algorithm in facing the facial nerve rehabilitation in vestibular schwannoma and trauma of the temporal bone

Cholesteatoma surgery and transposed canal wall tympanomastoidectomy
TUNCAY ULUG (Turkey),

This course consists of 2 parts. In the first part, a review of the the cholesteatoma resection techniques, i.e. canal wall down, intact canal wall, atticoantrotomy etc. procedures, will be presented. In this part, with digital photographs taken as series on temporal bones, the different approaches will be demonstrated step by step and also will be instructed, how each anatomical structure can be used as a landmark to define further structures in the temporal bone. With brief digital video presentations, instructions on how the burr
should be used in the vicinity of the middle cranial fossa dura, sigmoid sinus, semicircular canals, cochlea etc. will be given and how the burr should be used to prevent damage to the facial nerve.

In the second part, with comprehensive digital videos taken during live operations, the ‘Transposed Canal Wall ( TCW )’ Tymanomastoidectomy procedures will be demonstrated. The technique is based on enlarging the external auditory canal extensively and exenteration of the anterior part of the tympanomastoid with an outside-in technique, so that a new canal is created with a superior wall at the middle cranial fossa dural plate, and the other walls transposed 2-3mm posteriorly, inferiorly, and anteriorly. The TCW tympanomastoidectomy can be performed as an isolated technique, which is called TCW anterior tympanomastoidectomy, or as a combined technique - with a posterior mastoidectomy protecting the transposed posterior bony wall in between-, which is called TCW combined tympanomastoidectomy.

**OTOLOGY 7 // N° 18**

**Cholesteatoma: criteria for the selection of the surgical techniques**

**FRANCISCO ANTOLI-CANDELA (Spain), Antoli-Candela, F. ; Harguindey Antoli-Candela, A.**

**Introduction:**

During the last few years the early diagnosis and reduction of rhinopharyngeal pathology (especially in children thanks to the improvements in both medical and preventive treatments) have significantly reduced the incidence and characteristics of cholesteatomas.

**Material and Methodology:**

This course presents the variety within the criteria used for the indication or not of a surgical treatment; especially in regards to open versus closed techniques. In order to do this, the last 50 cholesteatoma cases which have undergone surgery have been reviewed and compared to the previous criteria followed for the indication of surgery.

**Results:**

The decision in regards to the indication of a surgical technique is considered as less aggressive, in some cases even without mastoidectomy. In actuality, closed techniques cholesteatoma surgery is more frequent due to the reasons mentioned in the introduction.

**Discussion/Conclusion:**

A review is undergone of the criteria employed in the indication of surgery on the basis of the intrinsic qualities of the cholesteatoma and its extension.

The results for the reappearance of cholesteatomas, residual cholesteatoma and the residual auditory hearing loss, are presented.

**OTOLOGY 8 // N° 20**

**Thympanoplasty keys of success**

**ASHUTOSH PUSALKAR (India), Prof. Emeratus D., Y. Patil**

Stapedectomy performed for Otosclerosis is the most difficult surgical procedure in the body. There is no comparable surgical situation in the body where, in a deaf individual one microscopic part is removed and replaced with artificial material in an area of few cubic millimeters. And if something goes wrong the subject’s situation gets worse than before. This too when non surgical alternative options like hearing aides is available which guarantees success.
The difficulties increase ten folds when one needs to do a revision surgery for conductive hearing loss in previously operated stapedectomy. Special care needs to be taken depending on the cause of conductive hearing loss.

The type of prosthesis used during the previous surgery, the positioning of prosthesis, the oval window region, position and condition of incus. How to get over several other difficulties without causing further complications are discussed.

What are the other options to revision surgery are discussed.

OTOLOGY 8 // N° 20

**Vestibular Neurectomy using Cochlea Mapping : the safe and complete release of vertigo fear**

*YASUYUKI NOMURA (Japan), Hidemi MIYAZAKI*

Vestibular Neurectomy (VN) is one of the surgical treatments for intractable Meniere disease. This course will introduce the VN surgical method using cochlea mapping monitoring that secures the safe preservation of hearing and contributes to the improvement of patients’ daily life activities. This surgical method is safe and precise due to cochlea mapping using the less invasive retrosigmoid approach. In addition, it is a treatment that improves the patients’ post-operative quality of life (QOL) and clears the fear of vertigo recurrence as it cures attacks completely. So far, the analysis has revealed the relation between the daily life balance disturbance and anxiety in pre-operative patients. After the surgery the temporary equilibrium disorder will fade quickly, then, patients’ daily QOL and anxiety will improve time dependently. This course will introduce our VN method using cochlea mapping monitoring, then will show the multiple availability of VN for intractable Meniere disease: going over the background of patients with equilibrium factor and anxiety, the vestibular compensation on the time course, and the improvement of patients’ daily lives.

OTOLOGY 9 // N° 22

**Temporal bone carcinoma: surgery and outcomes in advanced cases**

*RUBENS BRITO (Brazil),*

The objective is to describe our experience in the management of 62 patients operated sequentially in the last 3 years for malignant disease of the temporal bone who underwent surgery at the University of Sao Paulo Cancer Institute. We will discuss aspects of tumor staging and surgical planning, the choice of the surgical technique and the need of adjuvant treatments. The early surgical results and long term outcomes will be related to the tumor staging and the chosen surgery.
Epidermoid cysts of the CPA are not widely known since they give very few signs which only come out at a late and therefore neuro-surgical stage.

Forty per cent of these epidermoid cysts are located in the CPA. They constitute five per cent of the tumours of the CPA and the first descriptions were made by CRUVEILHIER then an American neurosurgeon DANDY.

The origin of these tumours lies in a problem in the separation of the ectoderm and the neuroderm which occurs between the third and fifth foetal month.

In spite of the very early beginning of the lesion which already exists at birth, the clinical signs will only generally appear towards the age of 40 to 50, proving how slowly these lesions evolve. These signs are in general the usual symptoms of lesions of the angle ponto-cérébelleux oriented diagnosis of which will be confirmed by MRI.

The treatment is exclusively surgical and the monitoring needs to continue over a very long period because of the great risk of recurrence.

Our results are fairly conclusive for in the 26 cases, the excision was supposed and declared total, hearing was preserved in seven cases including three which had improved by the end of four weeks of post-operative treatment. Unfortunately, there were six cases of profound deafness on very extensive cholesteatomas.

Balance problems were rapidly compensated in eleven cases and in five cases vestibular syndrome persisted for more than three months. we didn’t have to repeat surgery for any cfk leak

The results on the facial nerve are satisfactory since in six cases the facial was normal and in ten cases recovery was completed in a maximum of 6 months.

I think that our results are creditable in view of the size of the cholesteatomas we operate on.

Management of A and B paragangliomas

According to Fisch classification class A paragangliomas are tumors confined to the tympanic cavity originating from the promontorial tympanic plexus; class B paragangliomas originate from the canalis tympanicus and are localized in the typanomastoid compartment.

To achieve radical removal a precise preoperative surgical planning is mandatory. for this we modified this classification dividing the class A in two subgroup and class B in three, based on the preoperative clinical and radiological findings.

Therefore, for class A1 (tumor limited to the promontory with clear margins) an endocanalar approach is sufficient. Class A2 tumors (occupying entirely the tympanic cavity and involving the ossicular chain) can be removed using a retroauricular-transcanal approach possibly with a ‘finger flap’ approach. For class B1 (the tumor fill the tympanic cavity extending to the hypotympanum) a canal wall up mastoidectomy (CWUP) with posterior tympanotomy is indicated. Class B tumors (which extend to the hypotympanic and mastoid compartment) are better removed through a CWUP with posterior and subfacial tympanotomy. Class B3 paragangliomas are border-line with class C1 due to the involvement of the tympanomastoid compartment and initial erosion of the carotid canal: to achieve complete removal of this tumors a subtotal petrosectomy is required with mastoid obliteration and blind sac closure of the external auditory canal.
Non vascular tumors of jugular foramen

ENRICO PICCIRILLO (Italy),

Jugular Foramen (JF) can be affected by vascular tumors like paragangliomas, non vascular tumors like meningiomas and schwannomas and rarely chondrosarcomas or chordomas. Meningiomas of the jugular foramen originate from arachnoid villi located within the jugular foramen while the schwannomas arise from cranial nerves IX, X, and XI. While schwannomas usually expand along paths of least resistance and present with a dumbbell shape, meningiomas tend to infiltrate the bone, invade the dura and encase the vessels. The main clinical features seen commonly are hearing loss, lower cranial nerve deficits and unsteadiness. Neuroradiological exams must evaluate the tumor invasion of the jugular foramen, extensions into the temporal bone, internal auditory canal and posterior cranial fossa, extensions in the neck and whether or not there is an intradural extension. The surgical approach is decided by the presence or absence of the above mentioned factors. At the Gruppo Otologico, we prefer the petro-occipital trans-sigmoid approach (POTS) in most of the cases, with or without additional procedures like translabyrinthine or transotic, for non vascular tumors of the jugular foramen. We present the series at the Gruppo Otologico and describe in detail the surgical steps of the POTS approach.

SYMPO OTO 2 // IWGEES GROUP, POWERED ENDOSCOPY EAR SURGERY

Principles of the EES. Where are we and where are we going ?

JOAO FLAVIO NOGUEIRA JUNIOR (Brazil),

Introduction: It is not entirely correct to introduce endoscopic ear surgery (EES) as a “new technique”. This is quite appropriate where an entirely new system is being tried for the first time, using unfamiliar instruments and techniques. This is not the case with EES. The surgical skills remain the same, however they are applied in a different way. Nowadays many surgeons perform regularly endoscopic sinus surgery and EES merely applies these skills to the ear. It is certainly true that a spectrum exists between totally microscopic ear surgery and entirely EES, with most otologists using the endoscope to some extent during an otologic procedure. There is no need to place an arbitrary point at which the surgery becomes something different. Objectives: To describe the basic functional principles of EES, its major advantages and disadvantages as well as discuss the instruments needed, camera and endoscopes set-up, surgical skills, some tips and pears to surgeons to start doing EES and future perspectives, such as 3D endoscopes, virtual otoscopies, among other technological advancements in ear surgery.
RHINOLOGY PROGRAMME
Surgical Anatomy of the frontal recess
ANDREAS LEUNIG (Germany), H.R. Briner

The endonasal approach to the frontal sinus is the most difficult part of endoscopic sinus surgery due to its highly complex and variable anatomy of the frontal recess. Due to its close anatomical relationship with the anterior skull base and the orbit, thorough knowledge of the frontoethmoidal anatomy is key for safe surgery. This instructional course has its focus on indications for surgery of the frontal sinus, the anatomy of the frontoethmoidal region with its variations and the anatomical landmarks for the indirect and direct approach (drill out procedure).

Endoscopic endonasal approach to the maxillary sinus
HANS RUDOLF BRINER (Switzerland), A. Leunig

Acute and chronic inflammatory disease of the maxillary sinuses are frequent. Most often, medical therapy is sufficient. However, if medical therapy fails, surgical therapy is indicated. Before the area of functional endoscopic sinus surgery, transoral approaches were used such as the Caldwell-Luc approach. The endoscopic technique now allows approaching disease of the maxillary sinus via the natural drainage pathways. This has the advantage, that the natural drainage pathways can be enlarged if they are blocked by diseased mucosa. Depending on the extent of the disease, the transnasal endoscopic approach can be enlarged up to a partial medial maxillectomy. With this approach, total surgical control over the whole maxillary sinus is possible which allows to treat also benign and malignant tumors.

Detailed knowledge of the anatomy of the ethmoidal infundibulum and its relationship to the uncinate process, the lacrimal bone and the ethmoidal bulla is necessary to perform a precise surgical approach to the maxillary sinus. This allows to tailor the size of the opening to the extent of the disease of the sinus.

The instructional course will give answers to the following questions: does this patient need surgery of the maxillary sinus?; what are the anatomical landmarks?; how large should the opening to the sinus be?; what to do in difficult cases like revision surgery? A variety of cases with video clips will be demonstrated.

Nasal and paranasal sinus anatomical variations in patients diagnosed as having rhinogenic contact point headache
NAVID AHMADY ROOZBAHANY (Iran),

Our purpose is to evaluate CT scan findings in patients diagnosed as having rhinogenic contact point headache (RCPH). We evaluated Paranasal Sinuses CT Scans of Eighty patients with RCPH, who were successfully treated with surgery to find out possible anatomical causes. The most frequent anatomical finding in RCPH is middle turbinate concha bullosa followed by septal spores, giant bulla ethmoidalis, superior turbinate concha bullosa and high septal deviation. There are different etiologies for rhinogenic contact point headache and each anatomical abnormality has a unique symptomatology. Appropriate diagnosis of sinonasal anatomical abnormalities leads to successful treatment of this common type of headache.
Mistakes during FESS and surgical solution
HUSSAM ELBOSRATY (Egypt)

Rationale & Background: FESS is a technique aimed to treat pathology in the nose and paranasal sinuses safely and efficiently. Although this surgical technique is not without complications as any other kind of surgeries. Mosher, 1929 stated that any surgery in the ethmoidal region should be simple, but it has proven to be one of the easiest ways to kill a patient. A 1990 survey of nearly 7000 American otolaryngologist showed 0.5% incidence of CSF leak for endoscopic ethmoidectomy, whereas orbital complications was significantly lower. “Kennedy et.al, 1994”.

It is possible minimize complications with the following prerequisites: Good knowledge of anatomy, good knowledge of radiology, Learning curve, Good patient selection, adequate strategy for surgery.

Material & Methods: We list a number of complications during our practice in FESS in various sinonasal and skull base pathologies

Results: we reported few complications during our FESS practice such as orbital injury, CSF leaks, bleeding. Dealing with these complications was possible but it needs patience, experience and tools.

Conclusion: FESS is a safe and efficient technique aimed to treat pathology in the nose and paranasal sinuses. Reported complication rate should be low with experts who should be capable of dealing with these complications.

Assessment of the lacrimal pathway – Endonasal DCRS – The role of the ENT
PHILIPPE ELOY (Belgium)

DCR consists of diverting the lacrimal flow into the nasal cavity through an opening made in a standard fashion, at the level of the lacrimal eminence, in front of the head of the middle turbinate.

The optimal indications are low obstructions of the lacrimal excretory system. This means that the obstruction lies beyond the common canaliculus. Clinically we must make the distinction between PALDO and SALDO.

PALDO also called as Primary Acquired Nasolacrimal Duct Obstruction typically involve women older than 50. SALDO also called as Secondary Acquired NasoLacrimal duct Obstruction can be observed after a trauma, a tumor, an infection or a systemic disease such as sarcoidosis or wegener granulomatosis.

On a clinical point of view, the symptomatology is dominated by a watering eye, purulent discharge, crusting, recurrent conjunctivitis and, sometimes a lump at the medial canthel region. Pressure with the finger on the medial canthal region can express pus.

In the office, during the consultation, the ENT examines the patient and tests the lacrimal system by doing a syringing and a probing. Typically there is a reflux of the saline throught the superior lacrimal punctum when injected through the inferior one and at probing there is a bone contact with the medial wall of the lacrimal fossa. He can also put some drops of fluorescein in the conjunctival lake, ask the patient to blink his eye and see wether or not the drop disappear in the nose.

Once the diagnosis is made clinically, an imaging is ordered to provide objective data. The digital substraction dacryocystography is the gold standard to visualize the lacrimal system. It clearly demonstrates the level of the obstruction.

As an ENT and before any endonasal procedure we use to order a sinus CT scan. Per itself it gives information on the anatomy surrounding the lacrimal pathway (pneumatization of the middle turbinate, Agger nasi cell, insertion of the uncinate on the ascending process of the maxilla,...) but does not give any information on the patency or not of the lacrimal system. In some cases it can visualize a cystic dilation of the distal end of the lacrimal duct in the inferior meatus, a rare and presumably an underestimated cause of epiphora in adults.
The dacryoscan combines the advantages of a conventional CT and the injection of a contrast medium in the lacrimal pathway. It is very interesting when there is an history of trauma, a previous surgery or in case of a complete mechanical low obstruction of the lacrimal pathway.

Once the diagnostic of PALDO or SALDO has been made, we can go for surgery.

The story of the endonasal approach started in 1893 when Caldwell first described the procedure but the results were bad, the endonasal visualization poor and the instrumentation not adapted.

In 1988, Rice demonstrated the feasibility of the endoscopic DCR in cadavers. Since then, we observed 4 different modalities for this procedure:

First of all the procedure was performed with cold instruments (osteotome, chisel, bone resector, cutting drill). Then the LASER was used (the KTP laser, the Nd-YAG, laser, the diode laser, the Holmium YAG laser) endonasally or via a transcanalicular approach. After this the powered instrumentation was available. this instrumentation combines a drill, an irrigator and the suction. PJ Wormald, from Australia, proposed to do the procedure very high in the nose, in the vicinity of the lacrimal sac, very close to the attachment of the middle turbinate to the lateral nasal wall. This procedure gives the best results with a mean success rate of more than 85%.

Finally some authors recommend to use the Mitomycin C, a wound modulator, to prevent restenosis, particularly in case of revision surgery.

During this workshop all these data will be exposed and illustrated with a lot of pictures.

RHINO 12 // N° 31
Understanding chronic rhinosinusitis: pathophysiology and mechanisms
HARALAMPOS GOVERIS (Germany ),

Is chronic rhinosinusitis a neutrophil - driven or an eosinophil - driven disease? Innate immunity, immune barriers and adaptive immunity show respectively different profiles. Under the mucosal surface of a single unifying term such as “chronic rhinosinusitis” a multitude of underlying cellular and molecular mechanisms are hidden. Recent research findings have began to offer a glimpse to the complex mechanistical picture.

RHINO 12 // N° 32
Nasal nitric oxide measurements in rhinology
LIJILJANA JOVANCEVIC (Serbia ),

Nitric oxide (NO) is a colourless, odourless gas, present in air exhaled through the nose (nasal NO – nNO) or mouth (exhaled NO – eNO). NO is secreted in the respiratory tract, by resident and inflammatory cells, with a major contribution from the paranasal sinuses.

There are two basic modes of nasal NO measurements. First are the methods that use aspiration/insufflation of air in the nose, while second mode is done with silent nasal exhalation or nasal exhalation with „humming” manoeuvre. Nasal NO measurement is currently a research tool.

Nasal NO can be normal, increased or decreased in different pathological conditions of the nose and paranasal sinuses. nNO is decreased in patients with acute and chronic rhinosinusitis, with the lowest concentrations found in patients with Primary Ciliary Dyskinesia (PCD). Measurement of nNO with humming has been proposed as a test of sinus ostia patency.

Nasal NO measurements in management of patients with allergic rhinitis is still far from clear, since some authors found normal while others found increased concentrations of nNO. In patients with allergic rhinitis and asthma, the concentrations of nNO are consistently reported as increased.
In the future, clinical use of nasal nitric oxide measurements will certainly be established in everyday rhinologic and pulmologic practice, since it is posses a potentially great support in “united airway disease” concept in respiratory tract diseases treatment.

**RHINO 13 // N° 33**

**The olfactory cleft**

*PHILIPPE ROMBAUX (Belgium), Eloy Philippe*

Chemosensory perception is secondary to activation by odors of olfactory receptor neurons located in the olfactory epithelium found at the upper part of the nasal fossa. The olfactory cleft is described as the space between the medial part of the middle turbinate and the septum containing at its upper part the olfactory neuroepithelium. The integrity of this olfactory cleft is essential to benefit from odorant stimuli reaching the olfactory epithelium and leading to the central processing of the olfactory information. The olfactory cleft may be filled by space tumor lesion explaining the decrease of olfactory function. Without any space tumor lesion, the olfactory cleft may be locally inflamed by surrounding inflammation found in the ethmoid sinus in patients with chronic rhinosinusitis with or without nasal polyposis. On the other part, we also know that an empty olfactory cleft without any middle turbinate mucosa is also associated to a certain degree of olfactory dysfunction. This is particularly true in patients with the so-called empty nose syndrome where the olfactory cleft is large, without middle turbinate on the lateral part and often crusts and metaplasia of the olfactory neuroepithelium due to dryness and aerodynamic modifications in this cleft. Besides these well-known features and diagnosis leading to an olfactory dysfunction, new findings in the olfactory cleft revealed by an endoscopic and/or a radiological investigation become more and more described in smell and taste centers and there is now an attempt to classify these pathologic conditions with the aim to offer the most appropriate treatment. Therefore, the aim of this lecture was also to describe the clinical features and the olfactory abilities of the patients complaining of an olfactory dysfunction who present a olfactory cleft syndrome or the so-called respiratory epithelial adenomatoid hamartoma.

**RHINO 13 // N° 34**

**Modern management in chronic rhinosinusitis without nasal polyps**

*ANAMARIA GOCEA (France)*

Different actual topical modalities of treatment in chronic rhinosinusitis without nasal polyps are being discussed starting from saline nasal lavages applied through different delivery devices, steroids and other drugs to different physical therapies like cryotherapy, pulsatile ultrasounds or phototherapy. We focus on presenting the different types of delivery devices imaginated until present, different clinical studies centered on assessing intranasal steroids’ efficacy and safety of use, the “golden standard” for chronic rhinosinusitis and we present thorough preliminary data on alternative physical therapies efficiency (phototherapy, criotherapy or pulsatile ultrasounds). We’ll also present an experimental study that evaluated intraoperative spray-criotherapy’s efficiency on maintaining the maxillary antrostomies’ patency.

**RHINO 13 // N° 35**

**Rinosinusitis based on evidence**

*RICHARD VOEGELS (Brazil)*

During this presentation we will show the most updated data on acute and chronic rhinosinusitis, based on EPOS 2013. Evidence based diagnosis and treatments will be presented, associated with some clinical surgical cases, to illustrate the most frequent situations in an ENT office. Finally, we will show our experience with orbital and intracranial complications of rhinosinusitis.
Management of severe epistaxis

EMILE REYT (France),

Introduction: Numerous methods have been described to open the nasal valve in patients with nasal valve collapse. Most of these techniques require cutaneous incisions with a risk of scaring.

Methods: The technique described here is a strict endonasal procedure. The placement of the suture will pull the lateral crus in a laterodorsal direction. The intensity may be varied through the tension of the suture.

Patients: Since July 2009 we did already treat more than 70 patients with nasal valve stenosis using the technique described above.

Results: Immediately after surgery the patients reported a great improvement in nasal breathing which proved to be stable and lasting.

Conclusion: This technique is a simple procedure for treatment of nasal valve collapse with great results without visible scaring.

Hereditary hemorragic telangiectasia

VALERIE LUND (United Kingdom),

Hereditary haemorrhagic telangiectasia (HHT) is an autosomal dominant vascular disease characterized by recurrent epistaxis, mucocutaneous telangiectasia and visceral arteriovenous malformations.(1) Most patients experience epistaxis which tends to increase with age, can be life-threatening and significantly affects quality of life.(2) HHT lesions lack elastic fibres in the tunica media, limiting vasoconstriction and making them vulnerable to the slightest trauma, even airflow.

Over the last 30 years, I have managed a cohort of >370 HHT patients. Treatment options range from coagulating laser to septodermoplasty, hormone modulation and complete nasal closure, depending on the severity and frequency of the bleeding and a treatment algorithm has been developed based primarily on whether patients require regular blood transfusions.(3) Most require multiple forms of treatment, often beginning with laser procedures, progressing to septodermoplasty and finally nasal closure if the epistaxis continued to cause significant problems.(4-6) Whilst the laser has been the most common and repeated treatment, 81 have undergone septodermoplasty and 62 nasal closure. In addition, a group of 30 patients have received tamoxifen, an oestrogen receptor antagonist.(7) The results of these treatments and effect on QoL will be presented as well as an overview of other treatment options and the role of screening in patient management.

References
The described balanced orbital decompression is an effective surgical procedure and treatment in patients with Graves disease. Surgery related morbidity is low, especially the post-operative diplopia rate is lower in comparison to an only one wall nasal decompression.

Revision surgery is mainly performed for cases with insufficient primary surgery, recurrent frontal sinusitis and eosinophilic rhinosinusitis. The key points pertaining to the surgery are as follows;

1. All sinuses must be opened and a single cavity, as wide as possible, must be made.
2. The difficulty in the procedure depends on the degree of turbinates and agger nasi remaining.
3. The frontal and the sphenoid sinus should be surgically opened as landmarks, even if there are no pathological lesions.
4. There are limitations to the treatment of the pathological mucosa in the frontal sinus.
5. When the extent of the pathological involvement of the mucosa in the olfactory cleft is severe, excessive resection should not be performed to avoid mucosal adhesion after surgery.
6. Pathological mucosa should be completely removed using a microdebrider or several surgical forceps.
7. Bleeding and edema of the mucosa are less severe when antibiotics and systemic steroids are administered before the operation.
8. With advances in the diagnostic imaging techniques, in medical devices such as endoscopes and navigation systems, and the pathological diagnostic techniques, revision surgery can be performed precisely and safely, and the outcomes of the patients are thought to have improved.

**RHINO 19 // N° 47**

**Juveville Angiofibroma**

**HUSSAM ELBOSRATY (Egypt), Kasr El-Ini**

Juvenile nasopharyngeal angiofibroma (JNA) is a combined vascular and fibrous neoplasm which arises from the posterior-lateral wall of the nose. The tumor exhibits a strong tendency to bleed and, despite being microscopically benign, frequently exhibits destructive and aggressive behavior. Various treatment modalities are currently available for JNA, but surgical resection remains the best option. Recently, and after the advent of preoperative embolization many endoscopic trials were used to treat small JNA with great success. Still, however, the large Tumors remain a challenge. We describe our experience in 62 cases of endoscopic resection of advanced JNA including cases with intracranial extension.

**RHINO 19 // N° 49**

**The orbit and the rhinologist**

**HESHAM SALEH (United Kingdom),**

The anatomical proximity of the orbit to the paranasal sinuses is a double-edged sword. On the one hand breaches into the orbit should be avoided during sinus surgery and on the other hand, the sinus surgeon is often required to operate into the orbit. Modern endoscopic sinus surgery with the development of new sinus instrumentation has lead to the expansion of sinus procedures into the orbit. The author presents his experience with the management of orbital conditions such as surgical complications, thyroid eye disease, foreign bodies, tumours and optic nerve decompression.

**RHINO 2 // N° 3**

**Computer integrated surgery with application of advanced virtual reality techniques in interactive virtual rhino-endoscopy/virtual surgery-navigation operation systems**

**IVICA KLAPAN (United States),**

3D image analysis and processing, tissue modelling, virtual endoscopy (VE), virtual surgery (VS), the use of rapid prototyping (RP) models in medicine, 3D-computer assisted surgery (3D-CAS), as well as tele-3D-CAS, are a new methods of diagnosis using computer processing of 3D image datasets to provide simulated visualizations of patient specific organs similar or equivalent to those produced by standard 2D-black and white MSCT, MRI images and/or endoscopic procedures, and in the same time represent a basis for various realistic simulations in medicine, and can definitely create an impression of immersion of a physician in a non-existing virtual environment. Visualization avoids the risks associated with real endoscopy, and when used prior to performing an actual endoscopic exam can minimize procedural difficulties and decrease the rate of morbidity, especially for endoscopists in training which was proved in our first 3D-CA-FESS in June 1994, and Tele-3D-CA-FESS in October 1998. If we would like to understand the idea of “virtual reality” (VR),
it is necessary to recognize that the “... perception of surrounding world created in our brain is based on information coming from the human senses and with the help of a knowledge that is stored in our brain.”

The usual, well known definition says that the impression of being present in a virtual environment, such as VE/tele VE of the patient’s head, that does not exist in reality is called virtual reality (VR). Now, imagine that we can substitute artificially generated sensations for the real standard daily information received by our senses. In this case, the perception system in humans could be deceived, creating an impression of another ‘external’ world around the man. In this way, we could replace the true reality with the simulated reality that enables precise, safer and faster diagnosis as well as surgery. All systems of simulated reality share the ability to offer the user to move and act within the apparent worlds instead of the real world. The otorhinolaryngologist, e.g., any member of our surgical team, was able to provide VR-support in implementing surgical procedures, with additional correct control of all risks, within the limits of surgical normal tissue, without the additional trauma of surrounding tissue of anatomical region which has undergone surgical treatment, and in the same time they had the impression of presence in the virtual world and could navigate through it and manipulate with virtual objects.

RHINO 2 // N° 4

Navigation and robotics in paranasal sinuses and ear surgery

MARCO CAVERSACCIO (Switzerland),

Navigation surgery of the paranasal sinuses is frequently performed, on the lateral skull base is a rare intervention in daily practice. In case of changed anatomy e.g. chronic infection, tumors the normal anatomical landmarks are often missing rendering the orientation for the surgeon more difficult. Navigation together with imaging like CT, MR and Angiography support the surgeon in such cases to perform the operation more accurate and in some cases also in shorter time. Worldwide, no clear indications for navigated surgery on the anterior and lateral skull base exist. With the incorporation of augmented reality, image-guided PET/CT, actual cone beam CT images surgery will evolve into « information guided surgery ». Since 16 years we are developing and evaluating enabling navigations surgery tools for simulation, planning, training, education and performance in Bern. This clinically applied technological research was complemented by a series of patients who were treated between 1996 and 2012. Our last development focussed on a telemannipulator (robot) supporting the surgeon during the operation for hearing implants.

The goal of this instructional course is to learn more about the basics and clinical applications with the navigation and robot technology.

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www.hno.insel.ch; www.artorg.unibe.ch

RHINO 20 // N° 52

Growth of septum and surgery in children: Is it ever justified

GABRIELA KOPACHEVA BARSOVA (Macedonia),

Numerous observations on retarded growth of the nose after submucosus resection caused the above-mentioned restriction in surgery at a young age. If the septum is determined to be the reason of nasal obstruction in a childhood, a clinical dilemma arises.

Recent basic researches, assessment the results of the thesis of negative influence of surgical trauma in growth and development of nasal and skull bone.

Some parts of the septum has been identified, which are very important in septal growth (praemaxilla area, ventrocaudal angle of quadrangular cartilage), as far for operative technique modification.
Therefore rhinologic, orthodontic and cephalometric data should be essential elements in the follow-up of children after injury or surgery of the nose.

Often, difficult septal deformations in children are followed with deformation of nasal pyramid (rhinoscoliosis, rhinolordosis). In those cases we cannot solve septal pathology without nasal pyramid intervention in the same time and opposite.

Clinical reports have not produced solid evidence for the statement that septal surgery has no negative effect on nasal growth or can serve for correcting abnormal growth. The functional and esthetic problems of the patient, however, mean a continuous stimulus for further clinical and experimental investigations.

In summary, the growth centers of the nose have to be avoided if possible; long term nasal issues will theoretically be minimized. If the surgeon replaces it, the cartilage of the nose becomes straighter but still intact.

Kay words: children rhinosurgery, septal growth, indication for operation.

RHINO 20 // N° 53

Nasal fracture: Reduction, techniques

STEPHAN VLAMINCK (Belgium),

The immediate treatment of traumatic nasal fractures remains a controversial subject. Recommended management varies widely from no intervention at all to extensive open procedures involving rhinoplasty techniques. The treatment of nasal fractures is divided into closed reduction (CR) and open reduction (OR). Closed reduction is a relatively simple procedure and may result in acceptable outcomes. However, advocates of OR advance better cosmetic results and sustain that CRs will eventually need a second operation. The efficacious management of nasal fractures should take into account the specific characteristics of the fracture. A classification method should provide the surgeon with a guidance about which repair technique to choose.

Closed reduction involves manipulation of the nasal bones without incisions and has been a method of fracture reduction generally applied. It generally produces acceptable cosmetic and functional results. However literature studies show that 14% to 50% of patients have deformities after CR (1). Mild deviations can usually be conservatively managed with CR in the absence of moderate or severe septal deviation. Revision rates could be lowered in patients with an associated septal deformity if an open approach to the nasal pyramid was used at the initial repair (2). It implicates that he presence of a septal fracture has a significant effect on the success of closed nasal reduction. Septal assessment seems the key factor in guiding the surgeon for choosing the preferred approach to the operative management of patients.


RHINO 22 // N° 56

Aspirin intolerance syndrome

TILMAN KECK (Germany), Ajnacska ROZSASI

The Aspirin (ASA) intolerance syndrome or Aspirin-exacerbated respiratory disease (AERD) affects up to 11% of all asthmatics. The underlying pathologic mechanism is a disturbed metabolism of arachidonic acid after
application of nonsteroid anti-inflammatory drugs (NSAIDs) leading to a blockage of Cyclooxygenase-1, reduced production of prostaglandins and increased leukotrienes production. Additional pathologic mechanisms leading to an increased bronchospastic effect of leukotrienes are not fully understood yet. The full clinical picture of AERD consists of intrinsic asthma, chronic eosinophilic rhinosinusitis with nasal polyps, and ASA hypersensitivity (Samter triad). Currently, no reliable in vitro test is available to confirm the diagnosis. In vitro-tests are mainly used in scientific investigations. AERD is diagnosed by oral provocation tests and incremental dosage of acetylsalicylic acid. Oral provocation tests are highly useful being part of the therapy of choice, the aspirin desensitization. Leukotriene antagonists are alternative drugs for symptomatic therapy of this disorder.

This instructional session will detail how to diagnose and treat AERD and will describe the procedures associated with ASA challenge and desensitization.

Keywords: Aspirin-exacerbated respiratory disease (AERD) – intrinsic asthma – arachidonic acid metabolism – desensitization – chronic rhinosinusitis

RHINO 22 // N° 57

Update on Allergic Rhinitis pathophysiology

SUSANNE REINARTZ (Netherlands),

Allergic rhinitis is an important health problem, and one of the most common allergic diseases, affecting 10-20% of the population. It affects school performance, work productivity, sleep, and patients’ quality of life. Allergy is very complex and many pathophysiologic pathways and mechanisms have been studied. Evidence-based guidelines for clinical practice have improved allergic rhinitis therapy.

New developments in allergy diagnostics will be discussed, as well as recommendations for the prevention and treatment of allergic rhinitis and concomitant asthma, based on the 2010 revision of the ARIA (Allergic Rhinitis and its Impact on Asthma) guidelines.

Recent developments in immunotherapy will be addressed, discussing advantages and disadvantages of various routes of administration. Also, the clinical implications of changing indications for immunotherapy will be discussed.

Furthermore new findings on the role of dendritic cells in allergic inflammation will be presented, as well as interactions between different cell types in the nasal epithelium, and local regulation of nasal immune responses.

RHINO 23 // N° 59

Measuring nasal patency: Standard of care?

GIANCARLO OTTAVIANO (Italy),

Nasal airway obstruction is a common problem in ENT practice. Although different techniques have been presented to try to assess nasal patency, the majority of septal and turbinate surgery is still undertaken around the world without any objective confirmation of genuine mechanical obstruction.

Rhinomanometry and Peak Nasal Inspiratory Flow (PNIF) are two well-known methods to assess nasal patency. Although Rhinomanometry is still considered the gold standard for the assessment of nasal resistance, PNIF is a cheap and easy method to assess nasal patency and has been proposed to be a good indicator of objective nasal patency as rhinomanometry.

Normal PNIF values both for adult and pediatric populations have been published allowing the application of this technique to the results of septoplasty. Recently, normative unilateral PNIF data in adults have been proposed allowing to assess single nostril patency in patients with nasal septal deviations or in any other case where there is the suspicion of a single nostril occlusion. A very recent study compared unilateral PNIF
values to unilateral nasal resistances measured by anterior active rhinomanometry (AAR) in subjects with and without nasal obstruction to see whether unilateral PNIF is able to detect various degrees of nasal obstruction. The study showed a significant negative correlation between unilateral PNIF and unilateral resistances both in the healthy and pathologic populations. The analysis of the diagnostic accuracy by ROC curves of PNIF and AAR in both groups of study showed that the two methods are accurate to identify pathologic patients. Finally, unilateral PNIF method showed to be as accurate as AAR in identify nasal obstruction confirming that unilateral PNIF is a useful method to study nasal obstruction, even in those cases where there is the suspicion of a single nostril occlusion.

In conclusions, given the simplicity of PNIF and the fact that it correlates reasonably well with rhinomanometry, even unilaterally, PNIF could be very useful for rhinologists for assessing nasal patency especially before septal and turbinate surgery.

RHINO 24 // N° 60

Fungal sinusitis

HERBERT RIECHELMANN (AUSTRIA),

Fungal rhinosinusitis comprises a variety of clinically different diseases ranging from fatal acute infection to long-standing almost symptomless fungal colonization. The exposure to airborne fungi varies considerably worldwide. And also the pathogenesis and physiopathology of chronic rhinosinusitis and particularly chronic fungal rhinosinusitis is subjected to substantial geographic and regional variability. In addition, socioeconomic factors seem to play a role in the incidence of fungal rhinosinusitis. As a consequence, otorhinolaryngologists may observe distinct clinical courses of fungal rhinosinusitis. Moreover, the pathogenesis of rhinosinusitis is highly complex and experimental work becomes more and more sophisticated. Thus possible confounders are difficult to control. These factors may in part explain the inconsistency of our current knowledge on fungal sinus disease. In some common sinus conditions, particularly chronic rhinosinusitis with tissue eosinophilia or eosinophilic mucus, it remains controversial if fungal elements are relevant pathogenic factors, disease modulators or innocent bystanders.

This course is mainly concerned with clinical aspects of fungal sinusitis. Topics of this instructional course include a) classification of relevant fungi, b) human exposure to molds, c) general classification of fungal sinusitis, d) methods of fungus detection, e) radiography of fungal sinusitis f) classification and current diagnostic and therapeutic concepts of invasive fungal sinusitis, g) classification and treatment principles of non-invasive fungal sinusitis, and h) some remarks on pathogenesis fungal and non-fungal eosinophilic mucus sinusitis.

RHINO 24 // N° 61

Smell and olfaction

LUI S ANTUNES (Portugal),

Olfactory exploration, is much more than smell sense assessment.
By olfactory disorders, we can not only come to see ENT diseases but other kind of diseases, what are beyond ENT area; for instances: genetic, endocrinologic, neurologic, psychiatric, traumatic, intoxications, and yatrogenic, disorders, among others.
It depends on our knowledges, it depends on medical records we are able to obtain and arrange (anamnesi), and in final stretch, it depends on kind of examination system (Olfactometry).
We present a method which allow us to find more pathologies than we could never foresee before. This olfactometry method, follows the physiologic pathways o sensory experience.

RHINO 25 // N° 66
Sinonasal fibroosseous tumors

ANDREW SWIFT (United Kingdom),

Fibro-osseous lesions of the paranasal sinuses are disorders that are unusual and most surgeons will not come across many during their professional career. The author will therefore explain the pathology and clinical features of this diverse group of fascinating disorders. This will be demonstrated by clinical examples based upon his personal experience. The management of the individual tumours poses specific challenges and each will be discussed in turn. The presentation will also demonstrate complications associated with fibro-osseous lesions. Resection of large lesions may leave substantial defects of the various sinus walls and methods of reconstruction will also be presented and discussed.

RHINO 25 // N° 63
Surgery for pituitary adenomas

SEAN CARRIE (United Kingdom),

Pituitary Adenomas account for 10-15% of all intracranial neoplasms. Their classification has undergone a number of modifications over time but they are most commonly divided into either non-functioning or functioning, according to the hormone they secrete in excess.

Management options include surgical removal or decompression but it should be remembered that both medical options and radiotherapy have a place to play in treating pituitary adenomas. It is essential that treatment decisions are made in a specialist multidisciplinary clinic and it is important the pituitary otolaryngologist should be involved in this process.

Surgical management has evolved from a microscopic approach to the pituitary fossa to, increasingly, an endoscopic approach involving a team of both otolaryngologist and neurosurgeon. The logistics of such an arrangement may be difficult to organize but in order to ensure high standards of patient care such a dedicated arrangement is necessary.

RHINO 3 // N° 1
How to avoid and manage complications in the ESS

KIYOSHI YANAGI (Japan),

There are some different kinds of complications during the ESS, such as bleedings, orbital injury, cranial injury, and postoperative adhesions. Main reasons of the complications are as follows:

1) Patient?—?complications such as anatomical abnormality and massive bleedings. In anatomical abnormalities, depending on the patient’s race, complications include concha bullosa, re-operation, and post-injury. In case of severe lesions with massive bleedings, it is also possible to have complications.

2) Operator?—?complications due to inexperienced technique and inattentive manipulation. It is possible to have complications in both immature technique of an inexperienced operator and lack of attention of an experienced operator. In addition, bad mental and physical conditions can influence the manipulations.

3) Instrument - Microdebrider is a convenient instrument, but it can also be a cause of unexpected complications under wrong manipulation.

Examples of concrete complications are injury to anterior and posterior ethmoid artery, pterygoid artery, sphenopalatine artery, maxillary artery, and carotid artery in bleedings. In CSF leakages, there are injury of the cribriform plate, lamina cribrosa, and anterior skull base. In orbital injury, there are injuries of nasolacrimal duct and orbital structures.
Adhesion of the middle turbinate is also a complication after the ESS. I would like to introduce how to prevent the adhesion of middle turbinate. I also would like to talk about how to prevent and manage complications of the ESS.

RHINO 3 // N° 6

Endoscopic nasal sinus surgery

PAULO GONCALVES (Portugal),

With this instructional course the author presents his experience, and the experience of his department with ESS, through a period of almost 15 years on an ENT department of a Public District Hospital in Feira, Portugal.

Working in a “non-General” Hospital, has its challenges and limitations. Nevertheless, even with these limited conditions, it’s possible to perform rather differentiated procedures, either on inflammatory or neoplastic diseases of the nose and paranasal sinuses. At a given point on the department evolution, it was fundamental the acquisition of an Image Guided System in order to provide a “safety net” that allowed more complicated procedures. The author’s department performed so far around 1700 endoscopic sinus surgeries (on an average of a total of 1000 ENT surgeries/year), enrolling an interesting number of revision procedures, inverted papilloma, adenocarcinoma and other neoplastic diseases.

The aim of this course is to share the pathway followed by this specific ENT department, in order to achieve this differentiation and quality of care regarding ESS procedures.

RHINO 3 // N° 7

Nasal valve dysfunction: Safe and permanent management for a common problem

DANIEL F. AWENGEN (Switzerland),

In this Instructional Course the participant will learn about the importance of the soft tissue of the nose in relation to nasal resistance. The most narrow part of the entire airway is the internal nasal valve. This isthmus depends on the nasal septum medially but more importantly on the lateral nasal wall. The critical structure is the inferior edge of the upper lateral cartilage. Fifty percent of nasal airway resistance depend on the internal nasal valve.

Dysfuction of the internal nasal valve is far more common than previously diagnosed. Many patients could significantly profit from widening and stabilization of the valve. Previous surgical methods do not provide reliable and long lasting results.

For more than 10 years the rigid Titanium “Breathe-Implant” has been used to improve breathing. Long-term results prove a 90% satisfaction after 5 years. Details of this blinded study will be presented. Further benefits of Breathe-Implant surgery are less rhinosinusitis, and less allergy problems due to deblocking of the nose.

With increasing age in our world population this problem of soft tissue nasal obstruction will increase as the cartilage of the nose softens with time.

The participant will gain experience in the surgical applications using the open rhinoplasty and the closed rhinoplasty techniques.
In the future surgery to reduce airway resistance in the nose should always include the management of the internal nasal valve if the patient displays a significant problem. Septoplasty and turbinoplasty alone will not suffice. Stabilization of the soft tissue of the nose will become the new gold standard in nasal surgery.

External nasal valve collapse: Assessment and management algorithm

ANNE LISE POIRRIER (Belgium),

External nasal valve collapse or insufficient alar resistance is an unusual cause of nose blockage, with the disruption of the intermediate and lateral crural complex. The anatomy of external nasal valve and the causes of disruption are recognized, but there is no agreement on the clinical evaluation and the surgical management. A myriad of surgical techniques have been described; this number reflects uncertainty in choice of technique. We propose a simple way to clinically quantify the severity of collapse and choose the surgical management. We validated our external nasal valve scoring system in 16 ENT surgeons. Twenty-six external nasal valve patients were treated by functional septorhinoplasty. External valve reconstruction techniques reproduce the three major tip support mechanisms in tip function (lower lateral cartilage, medial crura footplate attachment to the caudal septum, scroll area attachment). In patients with multiple revision procedures, reconstructions using conchal cartilage or rib graft provide a good support to the external nasal valve.

Endoscopic surgery in malignant tumors

VALERIE LUND (United Kingdom),

Hospital, UCLH, London UK

Endoscopic resection of selected sinonasal malignancies has gained acceptance over the last decade1,2 though the rarity and long natural history of these tumours still make it difficult to accrue large cohorts, comparable with the previously established gold standard of conventional craniofacial resection.

Lessons learnt from a personal prospective cohort of 120 patients who underwent endoscopic resection with intention to cure will be presented. A wide range of histopathologies are included but moderate numbers of olfactory neuroblastoma (35), malignant melanoma (28) and adenocarcinoma (24) allow separate analysis and demonstrate results comparable results to external operations. In the case of malignant melanoma, improved survival is indicated, which is not attributable to differences in extent of disease3.

The diagnosis, surgical management, evidence for other therapeutic modalities4 and follow-up protocols will be explored, exploring both the advantages and limitations of endoscopic resection for malignant sinonasal disease.

References


3. Lund VJ, Chisholm EJ, HOWARD DJ, Wei WI


RHINO 4 // N° 11

Origin Oriented Management of Sinonasal Inverted papilloma
Reda KAMEL (EGYPT),

Surgery is the gold standard in the management of inverted papilloma (IP); however the approach and extent of the surgical procedure are still controversial. Most available surgical strategies address mainly the extent of the disease rather than the origin of the papilloma.

The aim of this instruction course is to demonstrate the state of the art in origin oriented management of IP [with live surgery video presentations]. It is useful to select the most appropriate approach and optimum extent of surgery:

- IP originating from the nasal septum or LNW could be handled by limited transnasal endoscopic resection
- IP originating from the maxillary sinus could be handled by extended transnasal endoscopic resection [medial maxillectomy]
- IP originating from the frontal sinus could be taken care of via Draf procedure Ila - b

Because of the origin of IP is usually finalized intra-operatively, the surgeon should be ready to perform the whole range of endoscopic techniques of IP. Failure to achieve complete surgical excision may indicate an adjuvant or a solo external approach

RHINO 5 // N° 12

Modified Lund-Kennedy endoscopy score for defining inflammatory burden in chronic rhinosinusitis
KORNKIAT SNIDVONGS (Australia),

Objective scores of inflammatory disease in patients with chronic rhinosinusitis (CRS) have traditionally been poor measures of the patient experience. A modified Lund Kennedy Endoscopy Score is proposed that aims to better describe the burden of inflammatory changes in CRS. The inflammation of all sinus cavities contributes to symptom severity, yet traditional endoscopy scoring systems report all sinuses as one cavity and do not correlate well with symptoms and disease specific quality of life.

A cross-sectional study on CRS patients undergoing full-house endoscopic sinus surgery (ESS) was conducted. Endoscopy was undertaken at the sixth week follow-up for all patients. Modified Lund Kennedy Endoscopy Score was used for scoring ten cavities (left and right maxillary, ethmoid, sphenoid, frontal sinuses and olfactory fossa). Scores for mucosal inflammation (0-6), mucus (0-2) and purulent discharge (0,2) of all cavities building up a total score of 0-100 was used. The associations between Modified Lund Kennedy Endoscopy Score and symptom visual analogue scale (VAS), Sino-Nasal Outcome Test-22 (SNOT-22) and
original Lund Kennedy Endoscopy Score were analyzed. The inter-observer and intra-observer variability were investigated.

Twenty-nine patients were assessed (48.3% female, age 48.7±13.3yrs). The mean Modified Lund Kennedy Endoscopy Score was 12.7±9.0. Modified Lund Kennedy Endoscopy Score was well associated with symptom VAS (r=0.45, p=0.01), SNOT-22 (r=0.38, p=0.05), nasal symptom score (r=0.53, p=<0.01), global anchor (r=0.47, p=0.02) and original Lund Kennedy Endoscopy Score (r=0.69, p<0.01). The inter-observer and intra-observer variability were excellent (ICC=0.94 and 0.95 respectively, p<0.01, both). The change of Modified Lund Kennedy Endoscopy Score over time was associated with the change in SNOT-22 (r=0.47, p=0.02) and nasal symptom score (r=0.56, p<0.01).

Objectives measurements for post-ESS patients can be reconsidered to better represent the cumulative inflammatory burden of all sinus cavities on disease severity. The proposed Modified Lund Kennedy Endoscopy score represents total sinus inflammatory burden and correlates well with patient report outcome measures.

**RHINO 5 // N° 13**

**Navigated Endoscopic Sinus Surgery (NESS): What is Different from FESS**

**TOMISLAV BAUDOIN (Croatia),**

ENT navigation has given new opportunities in performing Functional Endoscopic Sinus Surgery (FESS) and improving surgical outcome of the patient treatment. FESS assisted by a navigation system could be called Navigated Endoscopic Sinus Surgery (NESS).

In this instructional course will be presented algorithm for use of a navigation system for basic FESS in the treatment of chronic rhinosinusitis (CRS). The algorithm is adjusted to Messerklinger technique of FESS. The algorithm includes five units which should be highlighted using a navigation system. They are as follows: 1. nasal vestibule unit, 2. OMC unit, 3. anterior ethmoid unit, 4. posterior ethmoid unit, and 5. sphenoid unit. Each unit has a shape of a triangular pyramid and consists of at least four reference points - landmarks. As many landmarks as possible should be marked when determining one of the five units. Navigated orientation in every unit should always precede any surgical intervention. Surgery is always performed step by step, unit by unit. The algorithm should improve a learning curve of trainees and enable surgeons to use the navigation system routinely and systematically. NESS is in a way upgrading of FESS.

**RHINO 5 // N° 14**

**Foreign Body of the Maxillary sinus**

**Codrut Sarafoleanu (Romania),**

Iatrogenic intrasinusal foreign bodies represent a pathology continuously growing in the ENT practice. Although, in most of the cases the pathology isn’t life threatening, several complications can occur if the patient doesn’t receive the appropriate treatment. The penetration of the foreign bodies into the maxillary sinus during therapeutic manoeuvres on the superior dental arch is due to the particular anatomy of this region and/or local pathology.

Depending on the volume of the maxillary sinus, on the length of the dental roots and the height of the alveolar process, some of the lateral superior teeth come in close vicinity with the sinus floor (canine or first premolars teeth). The osseous tissue that separates the roots from the sinus cavity is about 0.5-4.5mm and sometimes at this level can appear small recesses between dental roots.

Iatrogenic foreign bodies that penetrate into the maxillary sinus (amalgam, dental burr, Kerr needles, tooth fragments, implants etc.) will eventually give birth to an inflammatory syndrome which, left untreated, can lead to severe complications - purulent rhinorrhea, pain in the maxillary sinus projection area and even oro-
sinusal fistulae. Acute sinusitis can become chronic and expand to all sinuses with a high possibility of intracranial expansion.

Due to the long evolution of a chronic rhinosinusitis, in the sinus cavity can appear small nuclei on which salts can precipitate and form anthroliths, cysts or fungal sinusitis especially caused by Aspergillum spp. The treatment for this kind of pathology was until recently osteotomy of the anterior antral wall, by Caldwell-Luc procedure with extraction of the foreign body. Since the emergence of the endoscopic sinus surgery, this has become the election technique for maxillary sinus foreign bodies removal because it is efficient, provides minimal trauma and the recovery period is shortened.

RHINO 6 // N° 15

Expanded Endoscopic Sinus Surgery
MANUEL BERNAL SPREKELSEN (Spain ), Manuel Bernal-Sprekelsen, Isam Alobid, Joaquim Enseñat, Matteo de Notaris

Endoscopic surgery beyond the paranasal sinuses, in a 4-hand fashion, together with the neurosurgeon, has become the standard procedure for surgery of benign and some malignant tumors of the skull base in an effort to avoid aggressive external approaches.

Objectives and M+M: to learn about the role of rhinologists in this surgery. To deepen into the anatomic structures involves, such as the internal carotid artery.

Means: besides slide presentation, multiple miniclips on different approaches (e.g. transcribiform, transplanum, clivus etc) on various tumors (extended angiofibromas, esthesioneuroblastomas, craneopharyngeomas etc) will be shown help to understand the endoscopic anatomy and the rationale of these surgical corridors.

RHINO 6 // N° 16

Nasal polyposis: pathophysiology, diagnosis and treatment
ROGER JANKOWSKI (France ),

A new concept is that nasal polyposis is a disease of the vestigial olfactory mucosa which remains in the ethmoid chambers of some people after regression of the olfactory mucosa into the upper part of the olfactory clefts in humans. This concept is based on the EVO-DEVO origin and formation of the nose (1). Bipedalism has transformed the mammalian olfactory chamber into two subcompartments in humans: the ethmoidal labyrinths and olfactory clefts. Auto-immune eosinophilic inflammation may be the trigger of polyp formation, which can originate in any place of the two subcompartments from the mucosa which is not anymore olfactory mucosa. The differential diagnosis between nasal polyposis and chronic rhinosinusitis, and with other chronic nasal dysfunctions, is easy. Medical treatment is based on topical steroids. Systemic steroids should be considered as a rescue treatment to be used with moderation. The aim of surgery is to remove as completely as possible the vestigial olfactory mucosa and to preserve or restore the sense of smell. Surgery is performed both in the ethmoturbinate spaces and the olfactory clefts. Respiratory epithelial adenomatoid hamartoma should be differentiated from eosinophilic oedematous polyps.

RHINO 9 // N° 22

Pathological and surgical specificities of sphenoid sinus
JUSTIN MICHEL (FRANCE ), Patrick DESSI

Sphenoid sinus presents many specificities mainly due to its location. The authors present the pathologic features of sphenoid sinus for benign and malignant diseases emphasizing the key diagnostic pitfalls.
The authors shows imaging features of bacterial and fungal sinusitis and of benign and malignant tumoral pathology. The rules of sphenoid sinus surgery are illustrated emphasizing the ways to avoid surgical pitfalls. Trans-sphenoid skull base surgery will be discussed.

RHINO 9 // N° 23
The Centripetal Technique for Endoscopic Sinus and Skull Base Surgery
ALEXANDRE FELIPPU (Brazil),

The aim of this course is to report the 26 years’ experience in order to evaluate the applicability and efficiency of the centripetal dissection in intranasal ethmoidal sinus and skull base surgery (IESS). The aim of this course is to report the 26 years’ experience in order to evaluate the applicability and efficiency of the centripetal dissection in intranasal ethmoidal sinus and skull base surgery (IESS).

Introduction
Intranasal ethmoidal sinus surgery (IESS) has been described by several otolaryngologists over the past century; the descriptions coincide with the introduction of new technology. Early reports by Mosher in 19291 describe ethmoidectomy using a headlight for illumination and visualization. Later in 1958, Heerman 2 describes IESS using a microscope and more recently, Stammberger and Kennedy describe IESS using an endoscope3,4. Although the technology may differ, close review reveals that the basic technique of ethmoidectomy has changed little over the past century. Pathology and ethmoid cells are opened/removed starting medially and proceeding laterally; in other words in a piecemeal centrifugal resection. Because ethmoid anatomy and pathology is highly variable between patients, the surgical technique also varies, and complications can and do occur. After the introduction of endoscopic sinus surgery the incidence of major complications appeared to significantly increase, while the risk rates were underestimated 5. Mosher cautioned many years ago that “any surgery in this region should be simple, but it has proven one of the easiest ways to kill a patient” 1. Although death from complications during modern ethmoidal surgery is extremely rare, serious avoidable complications continue to occur. Current recommendations to stay “medial and inferior” during IESS therefore have shortcomings, and there is a need for a logical surgical approach that is not dependent on highly variable ethmoidal structures for surgical orientation. For this reason, since 1984, we have performed the ethmoidectomy instead from the lateral boundaries to the center, which we characterize as “centripetal dissection” (Felippu A., 2011 Annals ORL 120(9):581-585)6.

The aim of this course is to report our 26 years of experience with this surgery and its applicability and usefulness in intranasal ethmoidal sinus and skull base surgery.

Material and Methods
The author analyzed his experience in ethmoidectomy and skull base surgery over a twenty six year period from 1984 to 2010 at the Instituto Felippu, Sao Paulo, Brasil.

Description of the Centripital Dissection for Ethmoidectomy
A surgical microscope was used in the earlier years of the experience, however, after 1997 a rigid 30° endoscope was utilized. A specific endoscopic sinus surgery set is used (Ferrari, Brasil). The surgical procedure remained the same.

To begin, a vertical incision is made in the nasal mucosa at the anterior margin of the unciform process. The unicinate is resected and the medial wall of the orbit is positively identified as early as possible in the dissection and preserved.
When extensive pathology (polyps, tumour, etc) is encountered, it may not be possible to localize the unciniform process, in which case the vertical incision is performed at the level of the posterior margin of the maxillary ascendant lamina (agger nasi), on healthy tissue. Dissection then proceeds along the medial wall of the orbit in a postero-superior direction to the floor of the anterior cranial fossa (ethmoid roof), which is positively identified. The dissection is directed in this direction initially because the ethmoid roof is typically thicker laterally than it is medially within the ethmoid sinus. Next, dissection proceeds along the floor of the anterior cranial fossa. The dissection proceeds posteriorly and inferiorly, with the 30 degree endoscope turned face down. The attachments of the ethmoid bulla to the lamina papyracea are cut using scissors parallel as close as possible to the lamina papyracea. The ethmoid bulla is displaced towards the middle turbinate. Other lamellae and ethmoid septae are incised parallel and as close as possible the lamina papyracea. The dissection proceeds until the anterior sphenoid wall is encountered. When necessary, the anterior sphenoid wall may be opened with the scissors or chisel parallel to the middle turbinate. After this incision it is possible to remove all the pathology as a unique piece. A guiding principle of the approach is assured surgical control in the dissection to and within the sphenoid sinus. The surgical plane provided by the lamina papyracea, as it joins the lateral sphenoid wall, provides an excellent anatomic landmark. Utilizing this, the surgeon can avoid dissection into the critical structures lateral to the sphenoid sinus.

When the unciniform process is present and treatment of the frontal sinus outflow tract is not planned, the superior part of the unciniform process is preserved.

When the maxillary ascendant lamina doesn’t allow the visualization of the frontal sinus is necessary to remove the superior part of the posterior margin. If the maxillary ascendant lamina is pneumatised (agger nasi cells), opening it is possible to reach the frontal sinus. Typically nasal packing is not placed at the end of the procedure.

Discussion

The centripetal ethmoidectomy or skull base surgery begins at the boundaries and progresses to the center, the anatomic limits of the ethmoid are identified early and controlled throughout the surgery. In our opinion, this represents a safer surgical technique. In contrast with other experiences, our data highlighted that the complications were not related to the surgeons’ learning curve, making centripetal technique useful for both experienced and inexperienced surgeons.

In conclusion, in an attempt to lessen complications and operate with greater precision, the centripetal dissection has been used during IESS: with the use of this technique the surgeon can precisely identify the position of the surgical instrument without losing his way, significantly reducing the complication. I believe that the concept must change from one of the resection of the ethmoid sinus to one of dissection of the ethmoid bone, (fig 1,2,3,4,5)

FIG 1 FIG 2

FIG 3 FIG 4

FIG 5: The same principle for any kind of dissection

Since 1997, I have been following the same technique for Ethmoidectomy in every ESS procedure, including paranasal and skull base surgery for inflammatory diseases, benign tumors and malignant tumors, which will be demonstrated during this Course.

References

PLENARY RHINO 4 // BRITISH RHINOLOGICAL SOCIETY
Endoscopic pituitary diving
PAUL NIX (United Kingdom),

Endoscopic pituitary diving is a technique to improving the optical field in pituitary microadenoma surgery. A dynamic fluid film lens is created in the pituitary sella by hydroscopy. This allows intrasellar visualisation and dissection of adenomas without any venous bleeding.
The technique is particularly advantageous when localising a functioning microadenoma and allowing preservation of normal functioning pituitary tissue.
LARYNGOLOGY PROGRAMME
**Continuously laryngoscopy exercise test: a method to visualize exercise induced laryngeal obstruction**

*MAGNUS HILLAND (Norway), John-Helge Heimdal*

Breathing difficulties during exercise due to airway obstruction at the laryngeal level is surprisingly often misdiagnosed as exercise induced asthma. This misdiagnosis should be avoided to prevent unnecessary medication.

When continuous laryngoscopy is performed during exercise one may visualize different types of laryngeal motion; The larynx normally opens widely at both the supraglottic and glottic level during exercise in non-symptomatic individuals. In symptomatic patients one may find that exercise induces changes in the normal laryngeal motion pattern and obstruction may occur at supraglottic, glottic or both levels. The pathophysiological mechanisms explaining the exercise induced obstruction levels are probably complex.

Since airflow rapidly decreases after exercise, both pre- and post exercise laryngeal examinations are not optimal. Larynx should ideally be continuously visualised during exercise when respiratory symptoms occur and findings recorded to be studied in detail after each test.

A diagnostic set up has been developed for continuous laryngeal inspection as well as recording of gas exchange parameters, exercise flow volume loops and breath-sounds during exercise. This test has been entitled Continuous Laryngoscopy Exercise (CLE)-test.

It is feasible to perform continuous flexible laryngoscopy concomitant with symptoms in most patients with breathing difficulties during exercise. By this novel procedure for laryngoscopy, laryngeal function during exercise can be precisely defined.

In this instructional course we will show how this test can be performed and practical advises will be given. A short summary of our results will be presented and there will be time for discussion at the end of the session.

**Radiofrequency Surgery in ORL**

*KLAUS VOGT (Germany),*

**ABSTRACT**

After an introduction into the physical and technical basement of Radiofrequency Surgery, the course will focus on the selection of technical equipment, which is necessary to perform this modification of electrosurgery as adapted to the individual needs of the user. Special attention is directed to the role of tissue impedance measurement in interstitial applications with primarily non-visible effects.

The following methods will be demonstrated by video spots: excision and ablation of superficial lesions, the advantage of RF application in tissues dissection (neck dissection, parotidectomy). Radioturbinotomy will be discussed considering recent publications and the use of 4-phase-rhinomanometry as most important diagnostic tool. Radiotonsillectomy and in particular radiotonsillotomy as well as cryptolysis are of worldwide increasing social importance. Critical consideration of applications in somnosurgery is followed by special endonasal surgery (Re-FESS, polyps, synchias, septal spurs)

New tools are available with advanced instruments for the so-called “microfiber-technique”. This is a very versatile and effective technique applicable inside the larynx and the nose as well as in ear surgery.

Individual practical demonstrations can be agreed after the course.
LARYNGOLOGY 10 // N° 23

Functional anatomy of the larynx
HERWIG SWOBODA (Austria),

As a multifunctional structure the larynx represents a focus of interdisciplinary interest. An understanding of its essentially mechanical functions needs a thorough anatomical knowledge. The perspective varies by therapeutic and educational discipline, the relevance of anatomical structures depending on type of lesion, functional impairment, and therapeutic or educational goal. The laryngologist, surgical oncologist, phoniatrician, anesthetist, pulmonologist, gastroenterologist, radiation oncologist, speech or singing teacher each adopts a specific anatomo-clinical attitude. A comprehensive anatomic overview is attempted, respecting the diversity of this anthropological key organ’s functions, and the multifaceted therapeutic and educational objectives.

LARYNGOLOGY 10 // N° 24

Role of tracheostomy in partial laryngectomies today
PREDRAG SPIRIC (Bosnia Herzegovina),

Introduction: Tracheostomy was lifesaving procedure through the centuries. It is one of the oldest surgical procedures. First written data about it goes to Egyptian history 3600 years BC. Asclepiades of Persia accepted as a first known person who performed tracheostomy 100 years BC. Although it was created to save life from sudden respiratory insufficiency later was found useful in different medical situations. Among the others it was used during partial laryngectomies to preserve respiration and ease tumor removal and reconstruction.

Aim: We will try to present data gained from clinical experience in last 10 years

Material and Methods: All patients who underwent partial laryngectomy in ten years period with special attention on use of tracheostomy are involved in presentation. They were divided in age and stage group as well as by type of laryngectomy. Standard statistic analysis and presentation was used. Results: Author will present partial laryngectomies classified by type and cancer stage in regards to tracheostomy used during operation and reconstruction. Also major advantages and pitfalls will be presented and discussed. Some individual surgical tips will be presented to justify surgical technique. Conclusions: Role of tracheostomy in partial laryngectomy today has historical value and should not be practised in any kind of partial laryngectomy. Tracheostomy highlights were overshadowed by its pitfalls.

LARYNGOLOGY 11 // N° 25

HPV-related and non-related carcinogenesis in otorhinolaryngology
CLAUS WITTEKINDT (Germany),

Incidence rates for Head and Neck Squamous Cell Carcinoma (HNSCC), particularly in the hypopharynx and larynx are decreasing, however, a significant increase in cancer of the oropharynx (OSCC) is observed. Classical risk factors for HNSCC are smoking and alcohol. 25 to 60% of OSCC are associated with an infection by oncogenic human papilloma virus (HPV). The development of “common” cancer of the head and neck is substantially enhanced by an accumulation of genetic changes, which lead to an inactivation of tumor suppressor genes or activation of proto-oncogenes. A more or less uniform sequence of different DNA-damages leads to genetic instability. In this context, an early and frequent event is deletion on the short arm of chromosome 9, which results in inactivation of the p16-gene. In contrast, for HPV-induced carcinogenesis,
expression of the viral proteins E6 and E7 is most important, since they lead to inactivation of the cellular tumor-suppressor-proteins p53 and Rb. The natural route of transoral infection is a matter of debate; peroral HPV-infections might be frequent and disappear uneventfully in most cases. Smoking seems to increase the probability for developing an HPV-associated OSCC. The lecture will summarize classical carcinogenesis, as well as main events of HPV life cycle, with an emphasis on carcinogenic mechanisms and potential new molecular targets. Prognostic significance of established markers, as well as new molecular markers with putative therapeutic relevance is described.

LARYNGOLOGY 11 // N° 26

**Early and late complication of supracricoid partial laryngectomies**

*MARCO DE VINCENTIIS (Italy), Armando De Virgilio, Antonio Greco*

The course objective is to describe and analyze the main complications of supracricoid laryngectomy (cricohyoidepexy and cricothyroidoepiglottopexy) posing attention on complications description, incidence, mortality, severity and management.

Each complication will be described in detail. A comprehensive review of the literature will be illustrated for each complication, reporting the incidence rates, mortality, morbidity and the different management strategies of various research groups. The experiences reported in the literature will be compared to our extensive experience in the management of patients undergoing partial supracricoid laryngectomy. Particular attention will be given not only to acute complications that endanger the patient’s life but also the ones affecting the tracheostomy tube removal time, respiration, and phonation.

LARYNGOLOGY 12 // N° 28

**Intraoperative Imaging**

*GIORGIO PERETTI (Italy), Piazza Cesare*

The appropriate endoscopic management of laryngeal cancer requires meticulous evaluation of its superficial and deep extension in order to reduce the amount of healthy tissue surrounding the tumor to be removed during the excisional biopsy and in order to obtain clear margins at the first attempt. Diagnostic work-up starts during preoperative endoscopic examination of the larynx by videostroboscopy coupled to 70° or 90° rigid telescope or flexible laryngoscope coupled to Narrow Band Imaging (NBI).

A more detailed multiperspective endoscopic view of the larynx must be subsequently obtained by 0° and angled (30°, 70°, and 120°) rigid telescopes under microlaryngoscopy. In such a way also traditionally considered “dark” zones of the endolarynx (anterior and posterior commissures, bottom and roof of the ventricle, and subglottis) can be adequately addressed. By combining the use of angled telescopes with special probes or microinstrumentation to rotate and palpate the free edge of the true vocal cords, to lift the false vocal folds to inspect the ventricle, and to divaricate the arytenoids, adjunctive information are allowed to be collected.

In selected cases, limited to the true vocal cord, subepithelial saline infusion by means of a dedicated angled needle allows to indirectly confirm or not the preoperative videolaryngostroboscopic findings about involvement of the lamina propria by the neoplastic growth. A complete hydrodissection of the mucosal-ligamentous plane with consequent ballooning and lifting of the lesion from the underlying intermediate layer of the lamina propria suggests the purely intraepithelial extension of the neoplastic nests. An incomplete or absent hydrodissection after saline infusion is associated to transgression of the superficial layer of the lamina propria by neoplastic cells through the vocal ligament. Even saline infusion into the Reinke space is associated to possible drawbacks, mainly concerning false negative cases in the event of limited vocal ligament involvement by a few nests of neoplastic cells. For such a reason, results of intraoperative saline infusion should be always integrated by those preoperatively acquired by
videolaryngostroboscopy. In case of divergent results of these two tests, subepithelial versus subligamental cordectomies should be tailored according to the more pessimistic scenario.

A number of ancillary tests have been advocated in order to intraoperatively define the macroscopic extension and nature of the erythroleukoplakia to be treated. The easiest and oldest is represented by the use of supravital staining by 2% toluidine blue in order to precisely outline the superficial margins of excisional biopsy, detecting possible multifocal pattern of cancerization. Contact endoscopy and autofluorescence give to the surgeon the possibility to understand the potential malignant behavior of a glottic lesion before its histologic examination. Apart from cost-effectiveness and surgical time concerns, their insight about the nature of the lesion is limited by the possibility of visualize only the superficial layers of the laryngeal epithelium during contact endoscopy and by the masquerading effect of cheratinization on the autofluorescent properties of the lesion during autofluorescence studies. On the other hand, such diagnostic tools are to be considered as extremely useful from an iconographic point of view and with possible further evolution in the event of new stainings or autofluorescent devices become available.

NBI is the latest addition to these optical techniques, and represents a conceptual revolution since its main focus is not on evaluation of the neoplasm itself, but on its vascularisation. By addressing the neoangiogenic patterns inside and surrounding a target lesion, NBI can effectively overcome most of the limits described for supravital stains and autofluorescence, with a significant reduction in the number of false positives. From a technical point of view, NBI applies narrow-band spectrum filters to enhance the visualisation of mucosal and submucosal microvascular patterns, based on the principle that light has different depths of penetration depending on its wavelength. NBI filters select blue and green lights (wavelengths of 415 and 540 nm, respectively), corresponding to the peaks of absorption of hemoglobin. These filtered wavelengths penetrate the superficial layers of mucosa, thus highlighting the capillary network, and deeper levels, by enhancing the submucosal vessels. Additionally, optimal image definition for both conventional white light and NBI endoscopy is achieved using a High Definition Television (HDTV) camera, which gives 1080 lines of resolution, thus allowing a signal definition that is 4.26 times better than standard endoscopy. Routine use of HDTV-NBI in the intraoperative setting by means of 0° and angled telescopes allows to better define the superficial extension of a given lesion and also to identify synchronous unknown lesions invisible to standard white light endoscopy. In such a way intraoperative restaging is possible, and a more adequate treatment can be obtained at the first attempt, minimizing the risk of incomplete resection or margins positivity.

LARYNGOLOGY 13 // N° 29
Professional Voice
PHILIPPE DEJONCKERE (BELGIUM), C. Manfredi

The concept of « professional » voice users has been described by Titze & al (1997) as « those – among the working population - who depend on a consistent, special or appealing voice quality as a primary tool of trade, and those who, if afflicted with dysphonia or aphonia, would generally be discouraged in their jobs and seek alternative employment. » Although the definition is clear, the group of concerned people is quite heterogeneous. A common characteristic of a majority of occupational voice users consists of the intentionality of their voice: they need to « operate » on the listener, to reach a goal. Consequently their voice use is a permanent challenge, with the risk to fall short of the mark, and this logically induces some kind of mental stress. The aim to reach may be of different natures: Pedagogic / didactic (teachers), artistic (singers), commercial (salespeople), persuasive (barristers). In all these occupational situations, the term “professional” voice seems more adequate than the generic adjective ‘occupational’. Beside them, some people may use their voice intensively, but without this explicit ‘intentional’ and ‘challenging’ connotation. This category mainly concerns social and health workers, people working in information services etc.
Furthermore, the individual intrinsic ‘talkativeness’ of the person obviously plays a role, particularly in e.g. health workers. Schematically, a phonotrauma may be either quantitative (overuse, beyond the physiological limits: e.g. teaching young children 6 hours consecutively) or qualitative (inappropriate voice use or abuse: e.g. rapping). In both cases a distinction can be made between acute (shouting when supporting football) and chronic (2 daily performances for several weeks). The concept of phonotrauma also includes various modalities: excessive loudness, inappropriate pitch, ventricular phonation etc. “Trauma” refers to tissue injury related to the vibration collision forces associated with these kinds of ‘hyperphonation’. Vocal fold nodules and vocal fold polyps are commonly considered as typical tissue reactions to phonotrauma, and result from subepithelial fibrovascular changes. Vocal fold nodules are one of the most common laryngeal (histo)pathological changes and appear as small, bilateral, mostly quite symmetric mass lesions (thickenings) approximately at the junction of the ventral and middle third part of the fold. Vocal fold nodules are generally considered to be the result of a tissue reaction to repeated localized mechanical stress. Recent modeling studies gave a new insight in the biomechanical aspects of the pathogenesis of nodules. Vocal fold nodules are indexed as a specific item in the European List of Occupational Diseases.

Four categories of risk factors for occupational voice problems have been identified: voice loading, general health condition, environmental factors and psycho-emotional factors. Most European countries handle a specific insurance system for occupational diseases, and this raises a double question for the medico-legal expertise: on the one hand « Can the worker-patient who claims for compensation be considered as ‘at risk’ for the disease? », and on the other hand « Is the objectivated disease of the claimant related to the occupational activity? ». There is a quite large agreement for considering as acceptable for an occupational disease a relative risk of 2:1 for developing the disease in comparison with the general population. Dosimetry and monitoring of voice during working activities are currently important research topics in this domain.

LARYNGOLOGY 13 // N° 30

LAX VOX Voice Therapy Technique

ILTER DENIZOGLU (Turkey), Sihvo Marketta, Katip Celebi

Vocology has been defined as the science and practice of voice habilitation two decades ago. This definition can be revised by dividing it into three branches: Basic Vocology, Pedagogical Vocology and Clinical Vocology. Basic Vocology contains several basic sciences interested in human voice such as acoustics, aerodynamics, biomechanics, cybernetics, physioanatomy and several signal processing methods (auditory, visual and neuro-electrical signals). Pedagogical Vocology is interested in habilitating professional voice to assist in performing whatever function that needs to be performed. Clinical Vocology is interested in diagnosis and treatment of voice disorders.

Voice therapy is the main treatment procedure in clinical vocology. It can be defined as to change the dynamics of vocal mechanism by behavioral methods. The main goal of a voice therapy technique is to obtain a target voice which is the best possible voice within the patient’s anatomic and physiologic capabilities. Pedagogical approaches of arts training (ie. singing and theatre) and basic sciences (sound physics, biomechanics, etc.) are used to structure a voice therapy application on medical grounds, so it won’t be a misnomer to say that voice therapy is the summary of Vocology.

Lax Vox Voice Therapary Technique (LVVT) is a direct voice therapy technique for general use. In this holistic/cognitive approach, the combination of a silicon tube and water work as a tool. Due to increased vocal tract inertance and artificial elongation of the vocal tract, a series of physiologic processes start. During laxvoxing; vibration efficiency increases, phonation threshold pressure decreases, control capacity of thyroarytenoid muscle increases, resonance capacity increases and a comfortably lowered laryngeal position
is maintained. Extraneous tension in the neck and shoulders are tend to be decreased, so proper abdomino-diaphragmatic respiration is a natural result by relaxation of secondary breathing muscles. The ultimate result is a resonant voice with flow phonation under proper abdomino-diaphragmatic respiration. LVVT is especially suitable for all professional speakers and singers to learn vocal ergonomics, and for the daily voice care of anybody. In singing pedagogy, LVVT helps to find the primal sound, warm up and cool down. It is a safe way to develop registers and a smooth passaggio. It is a therapy of choice for various functional and organic voice disorders such as muscle tension dysphonias, vocal fold nodules, habitual and psychogenic dysphonias-aphonias, vocal fold paralysis and presbiphonia. It is also an effective method before and after phonosurgery.

Biography:
Ilter Denizoglu : MD, Laryngologist, director and founder of Vocology Unit in Katip Celebi University Ataturk Education and Research Hospital, Izmir, Turkey. He performs voice therapy and phonosurgery in his clinical practice. He has studies on basic vocology such as new biomedical devices (Laryngoalimeter, Vocal Posturometer, NIPA). He developed the curriculum of Pedagogical Vocology and also works as a University Lecturer of Vocology in three different conservatories in Izmir, Turkey.

Precancerous lesions of the larynx and early glottic Cancer
HANS ECKEL (Austria ),

Precancer (carcinoma in situ) or laryngeal intraepithelial neoplasia (LIN) is a non-invasive lesion that has genetic abnormalities, loss of cellular control functions, and some phenotypic characteristics of invasive cancer and that predicts for a substantial likelihood of developing invasive cancer. Several classifications have been proposed but none has received a total agreement. With regard to diagnosis, treatment and prognosis, these lesions differ substantially from infiltrating carcinoma. Known risk factors include cigarette smoking, viral infection with subtypes of the human papilloma virus, exposure to asbestos, and probably the gastro-oesophageal reflux disease. The diagnostic work-up usually includes indirect laryngoscopy with rigid telescopes, microlaryngoscopy and biopsies for histological evaluation.

Therapeutic options include wait-and-see-strategies, radiotherapy, transoral laser surgery, vocal cord stripping with cold instruments, and open partial laryngectomy. Data from the literature suggest highest local control rate with radiotherapy as initial treatment compared to other standard methods of management of dysplasia; however, transoral laser surgery can be applied repeatedly and yields excellent final results. Therefore, it is now considered the treatment of choice for these lesions in the majority of patients. Patients presenting with stage I or II disease are treated with surgery or radiation therapy with the intent of curing the disease. Although efficacy is comparable between the two methods, surgery is usually preferred so that the side effects and late toxic effects of radiation can be avoided.

Local recurrences are observed more frequently in LIN than with small infiltrative carcinoma, and second primaries may arise within the upper aero-digestive tract following initial treatment. Therefore, systematic follow-up is recommended for these patients.

Vocal Fold Scars
FREDERIK G DIKKERS (Netherlands ), Christoph Arens, Vincent Bachy, Frederik G. Dikkers, Suzy Duflo, Gerhard Friedri
Scarring of the vocal folds leads to dysphonia, due to deterioration of the highly complex microstructure with consecutively impaired vibratory pattern and glottic insufficiency. The voice is predominantly characterized by a reduced vocal capacity. Despite considerable progress in understanding of the underlying pathophysiology, treatment of scarred vocal folds is still an insufficiently resolved chapter in laryngology and phonosurgery. An individually tailored, multi-dimensional concept of treatment that comprises the whole armamentarium of surgical and non-surgical modalities is decisive for success. The chosen phonosurgical method is determined by the main clinical feature. More simple cases require medialization techniques for treatment of glottic insufficiency, or epithelium freeing techniques for improvement of vibration characteristics. These can be combined with injection augmentation or implantation. In severe cases buccal mucosa grafting can be an option. New developments include treatment with angioytic lasers (PDL, KTP), or techniques of tissue engineering. However, despite promising results by in vitro experiments, animal studies and first clinical trials, the step into clinical routine application has yet to be done.

In this instructional course the audience will be demonstrated an introduction into the problem (body-cover theory, micro-architecture, microbiology), pathogenesis, diagnosis and treatment options of this challenging diagnosis.

LARYNGOLOGY 15 // N° 36

Thyroplasty
MARKUS HESS (Germany),

The focus of this instructional course is to learn about thyroplasty as a valuable tool for phonosurgeons in respect of voice improvement. Various surgical types, techniques, and modifications will be presented. Because of time constraints, one focus will be on medialization thyroplasty (so called thyroplasty type I). Furthermore, typical indications as well as contraindications will be discussed.

LARYNGOLOGY 16 // N° 38

Glottic/Subglottic Stenosis
GERHARD FRIEDRICH (Austria),

Treatment of laryngo-tracheal stenoses still remain a challenge. Depending on the site, extent and nature of the stenosis a wide variety of treatment modalities have to be used. The different surgical options will be presented mainly with video clips and discussed with special emphasis on glottic and subglottic stenoses.

LARYNGOLOGY 17 // N° 39

Surgical treatment of swallowing disorders
GERHARD FRIEDRICH (Austria),

Swallowing is one main functions of the laryngo-pharyngeal complex and can be disturbed in various manners. Treatment usually needs a multi-disciplinary team approach to achieve an optimal result. The various treatment modalities will be presented mainly with video clips and discussed with special emphasis on surgical options for the improvement of swallowing disorders.

LARYNGOLOGY 17 // N° 40

Spasmodic dysphonia: evaluation and management
RICARDO SERRANO (Argentina),

Spasmodic Dysphonia is an idiopathic disease of the larynx and it is one of the most frequently misdiagnosed conditions in speech-language pathology.- It is a focal, gradual adult-onset dystonia of laryngeal muscles with intermittent phonatory breaks during speech secondary to spasms.- Cause is unknown: psychogenic or organic? and some cases are hereditary (gene on chromosome 9).- Often diagnosed following respiratory tract infections, laryngeal damage due to injury and vocal overuse, it usually appears when attempting voluntary speech; may be asymptomatic during reflexive phonation (coughing, laughing, crying, singing, yawning) and worsen under stressful conditions and while talking on the phone.- All current therapies for SD are directed toward the symptoms of the disease.- The mainstay of treatment continues to be Botulinum Toxin injections into the laryngeal muscles.- Occasionally patients can develop antibodies and resistance.- There is still work toward understanding the underlying cause so we can then possibly develop a cure to the disease.

During this Course we will present:
What is Spasmodic Dysphonia? - Introduction
Types of S.D.
Anatomy of the larynx
Etiology
Diagnosis
Clinical features
Therapy
Pharmacologic
Surgical
Conclusions

LARYNGOLOGY 17 // N° 41
Here’s food for thought – Actually diagnosing dysphagia by feeding your patient
CRAIG ZALVAN (United States),

Description: Many patients with dysphagia often lack a diagnosis of the cause and extent of their problem. Using office laryngoscopy, the otolaryngologist typically visualizes the oropharynx and larynx. Esophagoscopy has increasingly been used as well. These exams only assess the anatomic relationship, not the functional ability of the patient to swallow.

This course will discuss the dysphagia feeding protocol used to help identify the site of compromise of feeding ability. Feeding patients with direct visualization using FEES (functional evaluation of swallowing) and TNE (trans-nasal esophagoscopy) can help the otolaryngologist decide on further diagnostic testing specific to the site of dysfunction, treatment regimen, and help provide an answer to the patient’s ongoing swallowing problem.

LARYNGOLOGY 18 // N° 42
The scarred larynx
MARC REMACLE (Belgium),

Glottic scars can be divided in four different types:
type I : mucosal, submucosal level - mild to moderate glottic insufficiency - reduced vibration
type II: Glottic insufficiency with round anterior commissure region
Anterior moderate defect, scars involving the vocalis muscle, no vibration, mild glottic insufficiency

type III: Glottic insufficiency: scar formation adherent to the inner perichondrium and the cartilage defect up to the supraglottic region twisted arytenoids

type IV: Glottic insufficiency: anterior web formation, round anterior commissure, bilaterally reduced vibration

The vocal fold scar is an injury of variable severity sustained by the vibratory segment of the vocal cord
In many cases glottic scars are accompanied by glottic insufficiencies caused by vocal fold defects.

A delay of 6 months is recommended before surgical treatment
Speech therapy is useful and can be sufficient in case of minor scar

The main goal of surgery is the obtaining of a better closing and from there a better vocal fold vibration
Hyaluronic acid can be injected to improve the pliability of the vocal fold
Medialization may help to achieve a sufficient glottic closure but not a normal voice.

In case of anterior glottis synechia,
Thin and small webs mostly cause nothing or only mild dysphonia. If the web is big and thick, than both dysphonia and dyspnea may be present.
The fine diagnosis can be set up by direct microlaryngoscopy combined with 0-25-45-70 degree telescopes, to see exactly the thickness of the membrane below the anterior commissure.

Only very thin anterior commissure web can be cured by simple endoscopic dissection of the membrane, using laser or micro scalpel with disposable sharp blade. In other cases it is necessary after dissection, and division of the web, to fix a silicon sheet or keel between the deep epithelized parts of the dissected membrane.
After dissecting the web the wound surface is painted with Mitomycin-C to decrease the fibroblast activity and the risk of recurrence

The setting of the keel is performed with the endo-extralaryngeal needle carrier from Lichtenberger.
After surgery the patient must be covered with broad band antibiotics at least for five days long.
Administration of steroids proved to be advantageous in the first three days. It is recommended to check the position of the keel after the surgery.
The keel is removed three weeks later by microlaryngoscopy

LARYNGOLOGY 18 // N° 44
Management of the compromised airway in advanced laryngeal cancer
RICARD SIMO (United Kingdom), Pracy Paul (UK)

Introduction. The compromised airway (CA) at presentation in laryngeal carcinomas (LC) is considered a poor prognostic indicator. The presence of obstruction due to LC, has traditionally been managed with tracheostomy but carries a potential risk of stomal recurrence. Other methods of management can also be employed.

The management of the CA in LC has still many controversies. These include: the anaesthetic approach, the use of tracheostomy vs the use of laser debulking, the true risk of stomal recurrence if tracheostomy is done, the timing of definitive surgery and the surgical technique at the time of definitive treatment.

Aims and Objectives. The aim of this Instructitonal Course is to provide a comprehensive evidence based but at the same practical review of the management of the CA in LC including: Rapid clinical assessment, anaesthetic considerations, conservative management, surgical management, indications of laser debulking and tracheostomy, surgical technique, pearls and pitfalls of laser debulking and tracheostomy, post-operative management, risk of stomal recurrence if tracheostomy is performed and definitive treatment LC in the background of the CA.
The IC will be divided into lectures and practical case discussion with interaction with the delegates

LARYNGOLOGY 19 // N° 45
FEES (Fiber Endoscopic Examination of Swallowing): Indications, Assessment and management of Orpharyngeal Dysphagia
THOMAS MURRY (United States),

Flexible endoscopic evaluation of swallowing (FEES) was developed as an office procedure for evaluation of swallowing function in 1988 and has become an alternative method to study the swallowing function when radiological suites are not available or when the patient cannot be easily transferred for radiological testing. This course will detail the purposes of FEES, indications for its use and present case studies with treatment outcomes.

LARYNGOLOGY 2 // N° 5
Regenerative medicine of the Larynx
MARKUS GUGATSCHKA (Austria),

Tissue engineering is a multidimensional process combining cells, scaffold-matrices and chemical signals to produce a structure similar to a target tissue. These techniques have opened a completely new field in diagnosis and therapy in numerous fields, including that of laryngology. The aim of this instructional course is to give a comprehensive overview about current knowledge in the field of laryngeal tissue engineering and regenerative medicine, including both restoration of vocal folds and laryngeal cartilage and furthermore to elucidate further trends in this fascinating field. Laryngeal regenerative medicine aims mainly to restore the altered vibratory and respiratory functions of the larynx. With regards to the vocal folds, the attempts can be split into two main strategies. The first is to inhibit the process of scarring and fibrosis, while the second aim is to rebuild the native ECM, ideally including the epithelial layer. Generally, tissue engineering consists of three interconnected approaches:
1. Use of bioactive factors
2. Development and implementation of scaffolds
3. Use of cell therapy.

To date specific growth factors are in clinical use (treatment of vocal fold atrophy). The local application of basic fibroblast growth factor (bFGF) in humans led to a significant improvement of voice parameters (aerodynamic and acoustic parameters) as soon as one week after administration and lasted for at least three months. Recently HGF (Hepatocyte Growth Factor) has been developed as a promising tool for treatment of chronic vocal fold scars and is expected to be commercialized in near future. Successful transplantations of vocal fold lamina propria are still missing, though big advances have been made in creating state-of-the-art scaffolds with various techniques, including biomaterials as well as fully synthetic polymers. Scaffolding surgery has been reported recently for treatment of human subjects with vocal fold sulcus or scar. Scaffolding surgery is a concept of in situ tissue engineering in which a regenerative scaffold is administered which facilitates the influx of cells and growth factors, finally leading to regeneration of the tissue. Cell therapy is a powerful tool in regenerative medicine but bears the uncertainty of possible malignant transformation. Routine clinical application in humans is not foreseeable as long as the above mentioned risks are not totally excluded. Several clinical trials are under way with various cell types being used so far including fibroblasts, MSCs, human embryonic stem cells alone or in combination with carrier mediums.
Autologous cells are most feasible for human subjects because they don’t bear risk of immunological reaction.

LARYNGOLOGY 2 // N° 6

High-Definition imaging in laryngology

JAMES THOMAS (United States),

Abstract: High-definition Laryngology is using high and low technology to optimally visualize pathology of the vocal cords and larynx. While high technology is expensive and low technology is inexpensive, an optimum combination leads to a cost-effective, high yield of correct diagnosis for laryngeal pathology. Some of the important variables include the choice of flexible fiberoptic endoscopes, chip endoscopes and rigid transoral endoscopes of various angles which can then be combined with Standard Definition or various levels of High(er) Definition video processors for recording examinations. Selective color imaging also improves visualization of laryngeal pathology. The most often overlooked improvement in definition is the closeness of the camera to the pathology. The orientation of the camera as well as the angle, type and intensity of lighting impacts the perception of the pathology. Automatic video gain, digital noise and depth of field impact perception of pathology significantly. As a general rule, the closer the endoscope is to the pathology, the more pixels that will be filled with the pathology, leading to a higher definition examination. Stroboscopy and high speed video are alternative means of viewing laryngeal function. Varying the vowel, pitch and volume are very effective and very inexpensive tools to elucidate vocal cord margin lesions, glottic gaps and stiffness. Video compression has a smaller impact on the resolution, but there are many choices, and the number of chips in the camera also has an impact on the image. In this lecture, these many variables will be reviewed for their role and relationships in a High-definition laryngology examination.

LARYNGOLOGY 20 // N° 49

Vocal fold augmentation with autologous filling

HEIKKI RIHKANEN (Finland),

The autologous (patient’s own) materials used for vocal fold augmentation are fat, collagen, fascia and cartilage. Each have its benefits and limitations. Both fat and fascia augmentation has been studied in detail during the past 20 years.

Fat is used extensively within the field of plastic surgery. It has a reputation of safe volume filler in face scars, and contouring other parts of the body have been increasingly popular. Harvesting the adipocytes is important in order to achieve a permanent result. Fat has also been used to elevate the scarred vocal fold mucosa or sulcus in order to create and maintain the subepithelial space. The material is ideal if a temporary medialization is needed or a small vocal fold gap needs to be closed. It has been used in mobile as well in paralyzed vocal folds. Good and permanent results have been published. However, patient series show that the results vary greatly. It may be that the fat harvesting techniques need to be standardized and that repeated procedures are needed in order to achieve an optimal result.

Fascia augmentations have a long history in aesthetic plastic surgery. Fascia is also used to envelope shopped cartilage or as static slings to lift a paralyzed face. Its metabolic requirements are low. Animal studies show that fibroblasts stay viable in minced and injected fascia, disrupted collagen fibres remodel, and the graft regains vascularity. Injected fascia forms a firm augmentation within the paralyzed thyroarytenoid muscle. Fascia has also been used to prevent adhesions between surgically separated
superficial and deep layers of the mucosa to enhance the mucosal wave. If a good augmentation is initially achieved, fascia seems to be permanent and long lasting material. The results in vocal fold augmentation vary, but fairly large gaps can be successfully closed with minced fascia. The major trouble is that it needs to be harvested form fascia lata or temporalis muscle due to the volume of injected material (0.3-0.4 ml).

Autologous collagen has been studied as well. Its use is limited by the cost and the availability. Cartilage grafts have been studied in animals. Histological examination shows that chopped cartilage remains viable and retains its volume for over 3 years. It might be an alternative to thyroplasty type I in limited cases.

The safety of augmentation both in plastic surgery and laryngology is of great concern. Autologous materials are biocompatible and harvested at low cost. In selected cases direct laryngomicroscopy under general anaesthesia is preferred by the patient and the surgeon. Fat and fascia are very tolerant to over-injection and misplacement. They remain are a valid option for the surgeons who do not perform the vocal fold augmentation frequently. The introduction course will present the techniques and the results of these autologous materials.

Functional outcomes after treatment of early glottic carcinoma
ELISABETH SJOGREN (Netherlands),

radiotherapy in the treatment of early glottic carcinoma (T1-T2 with mobile vocal fold). For smaller midcord lesions most would even argue that endoscopic laser surgery is the treatment of choice. Especially since it has now been established that the risk of undergoing a laryngectomy is reduced in a treatment strategy favouring endoscopic laser surgery while the functional outcome of the two treatments are considered equal. For larger lesions requiring deeper resections (ELS type III-IV) and resections of the anterior commissure (type IV) there is still some debate with treatment preferences varying per country and sometimes per centre.

This presentation looks at the introduction and evolution of endoscopic laser surgery for early glottic carcinoma. The impact of oncological and functional outcome on treatment decision-making in early glottic carcinoma will be discussed with special emphasis on larger lesions as described above. The decision-making process in these larger lesions is currently being studied in a prospective Dutch multicenter project of which data will be presented on questions like:

- what are the oncological results for larger lesions?
- what are the functional results for larger lesions?
- are patients and surgeons prepared to sacrifice some initial function by undergoing endoscopic laser surgery for larger lesions to reduce the chance of undergoing a laryngectomy at a later stage?

Finally, a brief look at the possibilities of reconstructive surgery after laser resection of T1-T2 glottic carcinoma will be given.

Vocal emergency management for performer's voice
VOIKO DJUKIC (Serbia), Milan Vukasinovic
Acute dysphonia means the highest emergency level for vocal performer as well as for his physician. This delicate situation on the day of the performance needs full action of all members of the voice care team, but all members of the patient’s stuff, too. The discretion is guaranteed, either the examination is done in the backstage, or in the office, with special entrance and confident personal. Contemporary optical examination is mandatory, stroboscope at least. Mobile option offers the possibility of control examinations during the day, even just before the performance. Prompt therapy is due to the comprehensive history. The ideal situation has a data of first examinations at the beginning of the carrier and from every next annual systematic examination. Multidisciplinary team is involved in consilium decision making. The laryngologist, phoniatrician, speech and language therapist, vocal coach, psychologist, everybody has its role, in cooperation with patient’s management. The comprehensive approach has the clear aim- not to cancel the performance, but not to damage the voice. This instructional course presents the strategy in such situations. Existing of clear algorithm does not exclude individual adapted approach.

LARYNGOLOGY 21 // N° 51

Contact endoscopy in Laryngology

MARIO ANDREA (Portugal), Dias Oscar

This course will demonstrate the use of contact endoscopy in the upper aero-digestive tract. This non invasive technique, in association with NBI illumination allows real time information of normal tissue and the identification of distinct pathological patterns: inflammation, metaplasia, keratosis, dysplasia, tumor, papilloma and fungal infection. It allows the diagnosis of the lesion and the mapping of the mucosal disease. Subclinical stages of disease can be demonstrated by microvascular changes and/or by cellular alterations. Through the discussion of clinical cases it will be shown how contact endoscopy has repercussion in diagnosis, therapeutic planning and its timing.

LARYNGOLOGY 21 // N° 52

Laser in laryngeal cancer surgery

WOJCIECH GOLUSINSKI (Poland),

In recent years, surgical treatment of laryngeal cancer has evolved. There are several therapeutic options for laryngeal cancer, including those that provide a functional preservation without worsening the oncological results, such as transoral laser microsurgery (TLM). TLM combines microscopic control with the precise cutting and coagulation capability that laser equipment has, making it possible to remove laryngeal tumours by the transoral approach, with very good oncological and functional outcomes. The decision to treat patients suffering from glottic cancer with either radiotherapy or surgery is both complex and controversial. In early tumours, local control with TLM has been proved to be as good as in open surgery and totally comparable to that achieved under radiation protocols, at a much lower cost. In addition to excellent oncologic outcomes and organ preservation, the benefits of transoral laser microsurgery include low morbidity and mortality, shorter periods of hospitalization and exceptional functional results. In this instructional course we would like to present our surgical technique and discuss the oncologic and functional outcomes of transoral laser microsurgery. Furthermore, we will also explain how to avoid and deal with possible complications.
Velopharyngeal insufficiency

VALERIE SCHWEIZER (Switzerland),

The velopharyngeal insufficiency (VPI) is a disorder resulting in the incorrect closure of the velopharyngeal sphincter during speech, allowing air to escape through the nose instead of by mouth. It is due to any structural or neurogenic defect of the velum and pharyngeal wall at the level of the nasopharynx. It is a still little known pathology representing a real handicap. Proper assessment of patients with VPI is essential for an optimal management of their treatment, both surgical and by speech therapy. The anatomy, the main etiologies of VPI, its medical evaluation (perceptive, by nasometry, nasofibroscopy and by radiology) and the main therapeutical options will be discussed during this presentation.

Neurolaryngology: EMG, Reinnervation

JEAN-PAUL MARIE (France),

The aim of this instructional course is to teach the indications techniques and results of laryngeal reinnervation in vocal fold paralysis. Attention will be payed to EMG and endoscopic check up of larynx immobilities. In unilateral vocal fold paralysis, indication of non selective reinnervation will be precised. In bilateral vocal fold paralysis in an adductory position, indication of selective reinnervation will be explained with some technical details on surgical technique and results.

Injection laryngoplasty: when and what?

ANASTASIOS HANTZAKOS (Greece),

Injection laryngoplasty for vocal fold augmentation has evolved into a popular phonosurgical technique for correction of glottal insufficiency. Its indications are most notably unilateral vocal fold paralysis, vocal fold paresis, vocal fold atrophy, vocal fold scar, and sulcus vocalis. Since its introduction in 1991 by Brunings, several materials, autologous or synthetic, have been used with variable success. Since the properties of each material differ, selection of one as opposed of the other is not always a matter of preference, but may have certain indications and limitations.

Voice ergonomics apply to ENT functional disorders.

EEVA SALA (Finland), Rantala L

Voice ergonomics means all the activity that allows riskless and good conditions for speech communication, speech production and perception. Voice ergonomics is based on research and multi professional collaboration. Good speech communication conditions mean that speaking and speech hearing take place barrier free without excess effort and loading in order to ensure good vocal function, prevent voice disorders and relieve handicap due to a voice disorder. It has been shown that voice disorders are frequent among occupational voice users (Pekkarinen et al 1992, Sala et al 2001). It has also been shown that causes of dysphonia originate more often from environmental (65%) than genetic (35%) factors. (Simberg et al 2009, Nybacka et al 2012)
Voice ergonomic risk factors are high vocal demands and speaking in environmental noise (Sala et al 2002, Södersten et al 2002). Other typical voice ergonomic risk factors in the occupational environment are long speaking distances, poor working postures and indoor air quality. It has been shown that these risk factors are frequent in environment of occupational voice users. In school environment voice ergonomic risk factors were found 37% of those assessed. It has also been shown that these risk factors are connected to vocal symptoms (Rantala et al 2012).

Medical treatment (phonosurgery, medication and/or voice therapy) does not always result in complete recovery of tissue damages and recovery of function or the recovery takes a long time. The handicap due to voice disorders can be decreased by decreasing loading due to environmental factors and courses of action. Voice ergonomic assessment can be done in the work place of a patient or if the visit to the work place is not possible for some reason, the risk factors may also be assessed in the discussion with the patient. The assessment can be made with the help of the format of Voice Ergonomic Assessment of Work Environment (Sala et al 2009) that includes five different fields: (1) Noise, (2) indoor air quality/climate, (3) working postures, (4) working practices and (5) use of aids. Each field contains forms with several questions, targets for measurements and summary tables. The forms include guidelines how to evaluate or measure the risk factor and also criteria for acceptable conditions. The outcomes of the evaluations are ticked in the tables dichotomycally as acceptable or not acceptable and measurement results are written down. The forms and tables serve as the reports of the assessment.

Voice ergonomic assessment and treatment of work environment will help people with a voice disorder to work more effectively and with minimum handicap. Voice ergonomics is recommended to be a part of the treatment to decrease handicap and to increase accessibility in subjects whose voice disorder cannot be cured completely or the recovery takes a long time. In the work places of occupational voice users voice ergonomic assessment is recommended to prevent tissue damages and to keep barrier free conditions for effective function and communication. At its best many of the risk factors can be avoided when the factors are taken into account in planning (architecture, acoustics, furniture, equipment, timetables etc.) and good practices are applied in building. However, cooperation is needed among people from different scientific, practical and political fields for making the improvements work in everyday life.


Rantala LM, Hakala S, Holmqvist S, Sala E: Connections between voice ergonomic risk factors in classrooms and teachers voice production. Folia Phoniatrica & Logopaedica, accepted for publication.


LARYNGOLOGY 3 // N° 8
Voice related genetics, pharmacogenetics and personalized treatment

METTE PEDERSEN (Denmark), Andersen Philip

The integration of genetics within the field of medicine holds a great potential value for a better understanding of the complex relationship between heredity and environment, and its consequences for health maintenance, disease development and personalized treatment. Understanding the genetics involved invoice related diseases can help target medicine development for more specific and efficient treatment. Ideally it will be possible to give patients a personalized treatment based on their unique genetic profile.

The human genome has been sequenced, and functions of the genes have been assigned. Still the genetic background behind predispositions to vocal diseases is not well understood. Methods available for finding candidate genes and demonstrating the effect of these candidate genes include modern sequencing platforms, microarrays, high-throughput sequencing techniques, gene transcript profiling, proteomics and nutrients/metabolite analysis. All these methods should be they key tools in achieving the developments in personalized treatment and predicting the rehabilitative process in voice.

Establishing and managing databases are further tools to retrieve, visualize, validate, interpret and cross-correlate these data. The implementation of genetic aspects is a complex but promising new approach to the further scientific progress in the field of voice.

Operative fiberendoscopy of the larynx

ANDREA RICCI MACCARINI (Italy), Andrea Ricci-Maccarini

Operative fiberendoscopy of the larynx is a mini-invasive surgical procedure which provides for the use of a flexible endoscope with a working channel, where flexible endoscopic instruments are introduced, like in gastroenterologic and in pneumologic procedures. The standard kit of flexible instruments includes microforceps, microscissors, needles, aspirators, laser fibers. Microforceps and microscissors are employed for performing biopsy of laryngeal lesions, with the possibility to get a big piece of tissue (cutting it with the microscissors and removing the piece of tissue with the forceps without passing through the working channel but coming out together with the fiberscope). Small polyps of the vocal folds can be removed in this way. Injection laryngoplasty is one of the major application of the fiberendoscopic technique: we use flexible needles and a high-pressure gun for injecting into the vocal folds autologous fat, hyaluronic acid, Calcium HLA, for the treatment of glottis incompetence caused by unilateral vocal fold paralysis, vocal fold atrophy or after cordectomy. We also inject the same materials in case of neoglottic incompetence after sub-total laryngectomy. Injection laryngoplasty performed under local anaesthesia with the fiberendoscopic procedure allows to control the vocal vold augmentation/medialization and its effect on voice quality during the intervention.

The fiberendoscopic procedure is also employed for the treatment with KTP laser, Diode laser and the new CO2 wave guide laser with flexible fibers that are introduced into the working channel, allowing to treat laryngeal papillomas and vascular lesions with an office based procedure.

Use of botulinum toxin in voice, speech and swallowinwing disorders

IRENA HOCEVAR BOLTEZAR (Slovenia)
Botulinum toxin (BT) blocks the release of acetylcholine from the nerve endings at the neuromuscular junction. Therefore it can chemically denervate the hyperactive muscles involved in phonation, speech or swallowing.

In Slovenia, in 1998 a team for voice, speech and swallowing disorders was created, consisting of an ENT specialist-phoniatrician, a neurologist especially trained in movement disorders, and an experienced speech therapist.

The current treatment of neurologically based speech and swallowing disorders includes patients with different head and neck segmental dystonias (different types of laryngeal dystonia/spasmodic dysphonias, other extrapyramidal disorders of the soft palate, tongue, pharynx), the patients with the swallowing problems because of upper esophageal sphincter (UES) disorders, excessive drooling, and the laryngectomised patients having problems with the learning of esophageal speech.

The method of BT injection is adapted to the available equipment in the phoniatrician’s and neurologist’s office. In the cases od aduction laryngeal dystonia a percutaneus injection through cricothyroid membrane with the endoscopic control is used. In a case of suprathyroid approach and the injection of the UES an EMG control is used.

In the workshop different pathologies requiring BT treatment, the modes of BT injection and the results of such treatment will be presented.

LARYNGOLOGY 5 // N° 12

Spasmodic dysphonia: assessment and long-term follow-up

PHILIPPE DEJONCKERE (BELGIUM), K.J. Neumann, G. Cantarella, C. Manfredi

Spasmodic dysphonia voices form, in the same way as substitution voices, a particular category of dysphonia that seems not suited for a standardized basic multidimensional assessment protocol, like the one proposed by the European Laryngological Society. Exhaustive perceptual and acoustic analyses were performed in patients with spasmodic dysphonia (SD) before and after treatment with botulinum injections, and all patients also self-rated their voice-related quality of life (VHI-questionnaire). The speech material consisted of 40 short sentences, phonetically selected for constant voicing. Seven perceptual parameters (traditional and dedicated) were blindly rated by a panel of experienced clinicians. Nine acoustic measures (mainly based either on voicing evidence or on period perturbation) were achieved by a special analysis program suited for strongly irregular signals and validated with synthesized deviant voices. Significant improvement is shown by all three approaches. The traditional GRB perceptual parameters appear to be adequate for these patients. Conversely, the special acoustic analysis program is successful in objectivating the improved regularity of vocal fold vibration: the basic jitter remains the most valuable parameter, when reliably quantified. The VHI is well suited for the voice-related quality of life. Nevertheless, when considering pre-therapy and post-therapy changes, a complete lack of correlation appears between the perceptual, acoustic, and self-assessment dimensions. Assessment of SD-voices needs to be tridimensional.

Long-term evolution was analyzed in patients having been injected with Botulinum toxin (Botox Allergan: 5 units/vocal fold) between 3 and 22 times over periods of 2 to 16 years. All these patients asked for repeated injections. Globally, 72 % of all individual injections appear to be successful as well objectively (acoustic analysis) as subjectively (patient’s self rating). The effects of botulinum are not reduced after repeated injections. In contrary, the self-perceived improvement after an injection increases in average over time. This effect is due to a slight worsening of the self-evaluation pre-injection. When only self-evaluations pre-injection are considered, patients tend to evaluate their voice and their handicap as worsening over time. The self-evaluation scores after injection remain remarkably stable. This contrasts with the results of acoustic analysis, including measurements of voicing, Fo-irregularity and fluency. Objective data reveal a relative stability of voice quality over time in as well pre- as post-injection, with in most cases an improvement after each individual injection of botulinum toxin. This seems to indicate that in repeatedly
injected patients, there is no shift over time in the objective severity of deviance in voice quality. The pathology does not show progression in severity, but there is also no cure.

LARYNGOLOGY 6 // N° 13
Endoscopic Transoral surgery from the Laser to the Robot
MARC REMACLE (Belgium),

Transoral laser surgery (TLS) is a safe, time and cost-effective method of treatment for early stage glottic squamous cell carcinoma.
Lasing obeys the same rules as those of suspension laryngoscopy: if adequate laryngeal exposure is not attained, then the procedure is at risk of being incomplete and of providing few satisfactory results
After the high power pulse mode and of the microspot, the major advancement in co2 laser technology has been the digital scanner. The scanner-assisted beam travels across the target as a straight or curved incision line. Line length and beam penetration can be adjusted.
More recently a reliable Co2 flexible wave-guide has been developed
Transoral robotic surgery (TORS) is an emerging technique for the treatment of head and neck tumors.
Inclusion criteria are adults with T1, T2 and selected T3 tumors involving the oral cavity, pharynx, and supraglottic larynx
We were able to introduce a CO(2) LWG via a robotic arm for performing TORS resection of early pharyngeal cancers. No complications were noted due to the intraoperative use of the robot or the CO(2) LWG. The mean coagulation depth was 200 \( \text{?} \) (range 100-300). The CO(2) LWG is a reliable tool for TORS. It allowed more than 1 h of work without any trouble.

LARYNGOLOGY 7 // N° 15
FEES (Fiber Endoscopic Examination of Swallowing): Material, technique, results, report
DANIELE FARNETI (Italy), Pastore Antonio

The term trans-nasal endoscopy of the upper respiratory-digestive tract refers to procedures conducted by flexible fiberoptic instruments. The endoscope is introduced trans-nasally and conducted through the respiratory tract, until the cervical trachea, and through the digestive tract, until the duodenum. A contact intranasal anesthesia is possible to make the procedure more tolerable.
Over the last twenty years this procedure has changed and adapted in response to technological improvements. It has been adapted to allow a functional assessment of swallowing in its different stages: from the lips to the duodenum.
It is to be remembered that:
• FEES (fiberoptic endoscopic evaluation of swallowing), was introduced by S. Langmore in 1988. To the anatomical evaluation of the regions, the procedure adds a functional assessment of swallowing effectors, in basic performances and during the passage of the bolus, together with an evaluation of sensation. The procedure is completed with the evaluation of the protection offered to postures and maneuvers.

• FEESST (fiberoptic endoscopic evaluation of swallowing with sensory testing) was introduced by J. Aviv in 1998. The procedure adds to FEES the evaluation of the upper laryngeal reflex, induced by pulsed air.

• T-EGD (trans-nasal pharyngo-esophago-gastro-duodenoscopy) was introduced by R. Shaker in 1994. The procedure was initially proposed as an alternative to the trans-oral procedure but it allows for a comprehensive assessment of the esophageal phase of swallowing, potentially up to the jejunum. It also allows for the evaluation of the role of saliva, bile and gas during swallowing and digestion.
The trans-nasal endoscopy of the upper respiratory-digestive tract allows for the definition of the physiopathology of swallowing disorders, checking the false progression of material passing through the pharyngeal cavity into the respiratory pathway: above the vocal cords (penetration) or below the vocal cords (inhalation). These events are directly verified before swallowing (pre-swallowing events) and after swallowing (post-swallowing events). The events that occur during swallowing (intra-swallowing events) are not directly verifiable in endoscopy but only by observing indirect events (reaction of the patient, such as choking or coughing, or by checking for the presence of pooling in the hypopharyngeal-laryngeal cavities). The procedure, with appropriate technical or procedural adaptations, can be applied throughout the lifespan, from small infants to adults with any disease, in the acute phase (also unresponsive), as rehabilitation and in the elderly.

LARYNGOLOGY 7 / N° 16
Managing Hypocalcemia after Thyroidectomy
PIETER NOORDZIJ (United States),

Course Abstract:
This course will aid the Otolaryngologist/Head and Neck Surgeon in better managing the most common complication after thyroidectomy: hypocalcemia. The first part of this course will focus on preventing parathyroid gland injury during thyroid surgery. Relevant anatomy will be reviewed and techniques to carefully search out and preserve parathyroid glands during thyroidectomy will be discussed. Specific patient risk factors for developing hypocalcemia after thyroidectomy will be discussed. The role of parathyroid gland auto-transplantation will also be reviewed. The second part of the course will describe the usefulness of PTH assay (checked minutes to hours after completing surgery) in the early prediction of hypocalcemia after thyroidectomy. The course will present meta-analysis results of 9 studies demonstrating the utility of PTH assay in predicting symptomatic hypocalcemia. Finally, the management of hypocalcemia after thyroidectomy will be reviewed. Particular emphasis will be placed on immediate treatment of those patients in whom the PTH assay has dropped significantly. In addition, emphasis will be placed on earlier discharge of postoperative patients in whom the PTH assay did not drop to a significant degree. The role of prophylactic calcium replacement schemes will also be discussed.

Educational Objectives:
(1) Learn techniques that preserve parathyroid gland function during and after thyroid surgery (2) Understand the utility of rapid PTH assay in the early prediction of hypocalcemia after thyroidectomy (3) Improve the postoperative management of thyroidectomy patients using rapid PTH assay: earlier patient discharge or immediate calcium replacement therapy

Course Relevance and Purpose:
This course will describe techniques in preventing, predicting, and managing hypocalcemia after thyroidectomy. Particular emphasis will be placed on the utility of PTH assay. Results from studies utilizing PTH assay after thyroidectomy will be reviewed and summated. A substantial drop in this assay, one to 6 hours postoperatively, is highly predictive that symptomatic hypocalcemia will ensue. Postoperative management schemes based on the early knowledge gained from PTH assay will be discussed.

Key Points:
(1) Preventing parathyroid gland injury during thyroidectomy: Aggressively search for superior parathyroid glands on the posterior lateral surface of thyroid gland. If identified, dissect off thyroid gland, preserving the vascular pedicle. Only half of inferior parathyroid glands are located within one centimeter of the thyroid gland. If you can not identify an inferior parathyroid gland attached to the thyroid capsule, do not extend
your dissection away from thyroid gland looking for it. (2) Predicting hypocalcemia after thyroidectomy: PTH assay, when checked 1 to 6 hours after thyroidectomy, has excellent accuracy in determining which patients will become symptomatically hypocalcemic. A 65% decrease in PTH checked 6 hours after completing thyroidectomy, compared to a preoperative level, has a sensitivity of 96.4% and specificity of 91.4% in detecting postoperative hypocalcemia. (3) Management of hypocalcemic patients: Early (possibly same day) discharge of postoperative patients, in whom the PTH assay did not drop, can be considered. We also suggest immediate treatment of those patients, in whom the PTH assay has dropped, in order to reduce hypocalcemic symptoms and duration of hospitalization.

References:

LARYNGOLOGY 7 // N° 17
Chronic Cough: A Disorder of Laryngeal Dysfunction
THOMAS MURRY (United States),

The purpose of this workshop is to identify the signs and symptoms that lead to the diagnosis of chronic cough as a laryngeal disorder Diagnostic procedures and treatment of chronic cough refractory to typical asthma medications and gastroesophageal reflux treatment will be presented. Evidence of chronic cough and its relationship to laryngeal dysfunction will be presented through existing evidence and case studies.

LARYNGOLOGY 8 // N° 19
Management of early malignant lesions of the larynx: is there still a place for open surgery ?
BADR ELDIN MOSTAFA (Egypt),

2-Management of early malignant lesions of the larynx: is there still a place for open surgery ?

Squamous cell carcinoma is the commonest malignant tumour of the larynx. The traditional alternatives included radiotherapy and total laryngectomy Due to the pivotal role of the larynx in respiration, speech and deglutition; conservative approaches to the management of malignant lesions were suggested. These organ preserving policies aim at preserving most of the laryngeal functions without compromising the oncological outcomes. These include organ preserving radio/chemotherapy protocols, endoscopic laser surgery, photodynamic therapy and open conservative surgery. Each of these has their indications, advantages and disadvantages. The modern trend towards organ preservation protocols and endoscopic laser techniques seem to have supplanted open conservative surgery. However these techniques have still an important role in the management of laryngeal malignancies. The different techniques, their indications and outcomes are discussed in this presentation.

LARYNGOLOGY 8 // N° 20
Current role of total laryngectomy in the treatment of laryngeal and hypopharyngeal carcinomas
HANS ECKEL (Austria),
For the treatment of advanced laryngeal and hypopharyngeal carcinomas, surgery, radiotherapy, chemotherapy and/or immunotherapy are usually combined. A major advancement in the treatment of this stage of disease has been the introduction of concurrent administration of chemotherapy and radiotherapy (chemo-radiotherapy). This has resulted in local control and survival rates comparable to the one seen following radical surgery and postoperative radiotherapy, while the larynx can be preserved in an important fraction of these patients. However, recent epidemiological observations have shown declining survival rates in laryngeal cancer patients, causing concern related to an uncritical over-use of this approach. The rational for choosing treatment options for patients with laryngeal and hypopharyngeal carcinoma are presented and will be discussed in detail.

Total laryngectomy has an important role in the treatment of local recurrences following initial chemoradiation and in restoring swallowing in patients with an non-functional larynx. It is also the treatment of choice for laryngeal cancer patients unfit for chemoraiation.

LARYNGOLOGY 9 // N° 22

A practical guide to videostroboscopy of the larynx: tips & tricks
ANASTASIOS HANTZAKOS (Greece),

Videostroboscopic examination of the larynx is the examination of choice for the diagnosis of voice related disorders. Adequate visualization of the larynx with the rigid endoscope is often limited by the lack of cooperation of the examined person. Video-chip flexible endoscopes have excellent quality image and are much better tolerated, but they are quite expensive in a private office setting. This instructional course provides tips and tricks to facilitate a laryngoscopic examination in the office and maximize its outcome with the conventional rigid endoscopes.

PLENARY LARYNGO 1 // Innovation of regenerative medicine for the larynx
SHIGERU HIRANO (Japan),

Regenerative medicine is the recent innovation that has a potential to treat difficult diseases, which have not been resolved. Regenerative medicine covers both structural and functional deficits of the organ by using cell, scaffold, and growth factors. Targets in the larynx should be vocal fold scar, sulcus, atrophy, post-hemilaryngectomy, and post total-laryngectomy even. The panel will discuss how to treat each pathology from the standpoint of regenerative medicine.

Wound healing
MARKUS GUGATSCHKA (Austria),

Following vocal fold (VF) injury three distinct phases of wound healing can be distinguished: Inflammatory phase, proliferative phase and remodeling phase. Despite recent increase in knowledge it is not completely understood, which are the cellular mechanisms that either lead to scarred VF or to scarless wound healing. Immediately after VF injury, a change of the cell populations occurs with a massive increase of neutrophile-like cells. As soon as three days after injury these cells largely disappear, reflecting a transition from initial inflammatory response to early tissue repair. Cytokines and growth factors, such as TGF-1, IGF-1, FGF or EGF are secreted during VF injury and play significant roles in fibrosis and scarring.

The damaged epithelium and lamina propria undergo a dramatic change in size, cell density, composition and morphology. Main histological features of scarred VF are disorganized thick collagen and elastin bundles, loss of important extra-cellular matrix (ECM) constituents and consecutively volume deficiency,
reduced VF pliability and glottal insufficiency. VF fibroblasts - as the main cell type - undergo a morphological transformation into scar fibroblasts (SF) and change production of ECM proteins which has a detrimental effect on the micro-architecture of the lamina propria and thus on vibrational behaviour. Currently, there are no causal or even fully satisfactory methods to prevent or heal VF scars. Therefore big hopes are placed in techniques of Tissue Engineering that are considered to provide causal treatment.
PLASTIC SURGERY PROGRAMME
The management of patients with sequelae of peripheral facial paralysis is delicate and exciting. Absence of a complete recovery after idiopathic facial paralysis is not normal, and the etiological work-up must be done. Serological studies and MRI of the facial nerve are essentials, before taking care of the rehabilitation. In case of a complete facial paralysis, surgery takes its place to restore the smile and treats lagophthalmos. A reinnervation is possible if the extracranial part of the facial nerve is intact. In the opposite case, a new effector muscle is needed to revive the labial commissure. Surgical decision is difficult if the facial paralysis is incomplete. These patients usually keep a partial motion but often present sequelae such as hemifacial spasm or synkinesis. Patients need a multidisciplinary team, with the surgeon and actors specialized in rehabilitation of the face, mostly speech therapists trained in new techniques. The use of electrophysiology to understand the sequelae has to be studied in depth. It could guide injections of botulinum toxin for the treatment of hemifacial spasm and synkinesis.

Traditionally septo-rhinoplasty in children was postponed after the puberty growth spurt. Reason was the clinical observation of children who had submucous resection of the nasal septum, resulting in underdevelopment of the nose and mid face. With the introduction of the submucous septoplasty, there was less reluctance to operate on children. In the literature there were positive clinical studies. A critical reader could see that nearly all studies had a too short follow up. A follow up until after the puberty growth spurt is mandatory to judge the consequences of septo-rhinoplasty in children. Experimental work of the Verwoerd-Group showed us that the growing septum has a morphogenetic function for the outgrowth of the nose and mid face. Discontinuity of the cartilaginous septum in the growing nose, due to trauma or surgery, leads to underdevelopment of the nose and mid face. From experimental work we learned what can be done concerning surgery on the growing septum. During the course I will discuss the guidelines for septo-rhinoplasty in children.

This technique is based on new knowledge on nose, anterior cranial base and midface formation (1). Evolution and development show that the cartilaginous nose remains connected to the cranial base as a consequence of the olfactory placodes imagination. This is the key point to understand septorhinoplasty by disarticulation. There are currently two completely different methods of rhinoplasty for correcting nasal pyramid deformations; those derived from osteo-cartilaginous resection of the nasal dorsum described by Joseph in 1904, and those based on preservation of the dorsum, as described by Cottle in 1947. Joseph’s rhinoplasty is the reference technique for correcting hump deformities, whilst Cottle’s septoplasty is the reference technique for correcting functional deformities of the nasal septum. However, the two techniques were never combined because osteo-cartilaginous resection of the nasal hump prevents complete disarticulation of the septal cartilage from its attachment on the perpendicular plate of the ethmoid bone and the vomer, an essential step in Cottle septoplasty. Indeed, once the septal cartilage is...
completely detached from its posterior and inferior edges as performed in Cottle septoplasty, it can no longer be separated from the upper lateral cartilages as performed in nasal hump resection, since this would involve total detachment with major risk of post-operative saddling and, moreover, stenosis of the internal nasal valve due to the collapse of the upper lateral cartilages.

Septorhinoplasty by disarticulation (SRD) proposes a solution to combine the two techniques: after Cottle septoplasty has been performed, the septo-lateral cartilage is dissected free of the piriform aperture; only the bony hump is resected and the open roof closed via lateral osteotomies; the preserved septolateral unit is then realigned under the new bony dorsum.

(1) The evo-devo origin of the nose, anterior skull base and midface. R. Jankowski (Springer, 2013) 220p (on display during the EAORL-HNS at the WISEPRESS stand)

PLASTIC 12 // N° 32

Modern Rhinoplasty

GILBERT NOLST TRENITE (Netherlands),

The key of modern rhinoplasty is less trauma and more predictable longterm results. During this instructional course I will discuss surgical anatomy (especially the tip support mechanisms), basic approaches (non-delivery, delivery and external approach) and trauma reducing procedures, micro-osteotomies and pre and postoperative management. This will be illustrated with live surgery video clips.

PLASTIC 12 // N° 33

Laser and IPL for facial rejuvenation

ALWYN D’SOUZA (United Kingdom),

Heat and light technology play a pivotal role in contemporary facial rejuvenation, with Laser and IPL in the forefront providing arguably the best results and minimal down time. In this instructional session I will be discussing the use of various lasers and IPL systems in facial rejuvenation. Treatment of a wide variety of conditions – facial rhytids, telangiectasia, pigmentation, excess hair, scar revision and optimisation etc will be discussed with clear clinical examples and treatment guidelines. In summary this will be an intense, targeted session focussing on day-to-day aesthetic clinical practice.

PLASTIC 12 // N° 34

Advanced Aesthetic in your office, hyaluronic acid, botox, platelet rich plasma and nerve blocks

DARKO CIVKAROSKI (Serbia), Milenkovi Dragan

This instructional course is for final touch to anesthetic procedures which you can perform in your office. You will be able to perform “outside the box” aesthetic solutions/alternatives to patients. These procedures will allow you to market new areas and help differentiate your practice from others. Many patients want “noninvasive” solutions and immediate results – not surgical solutions (i.e. implants, surgeries). First you will learn about management of facial anesthesia. Then something about most common used facial nerve blocks, different techniques, approaches and protocols for infraorbital and mental nerve blocks. Next will be pearls in botox application, such as complete protocols for Marionette Lines/Sad mouth, Platysmal
Bands and Orbicularis Oris (Lip Injections). Then will be explain advanced techniques for Tear Trough, Cheek Augmentation, Lip Augmentation for dermal fillers. At the end of dermal filler section a Fern technique will be explained. This is very useful technique for getting good results with small amount of dermal filler. At last something new and probably the future in the field of aesthetics. That is Platelet Rich Plasma Therapy for aesthetic purposes or so called Vampire Lift. PRP promotes local tissue growth and repair of damaged tissue. It will be explained how to collect patient enriched blood plasma with platelets, how to activate them, and application protocols. It is the best thing regarding patient safety, because its natural and non toxic, and there are no adverse reactions. It is simple to use and no need for external materials for injection. In combination, these therapies will help you get the results your patients want and demand.

PLASTIC 13 // N° 36

Osteotomies in rhinoplasty: indications, techniques, complications
ALIREZA MESBAHI (Iran),

Septorhinoplasty is one of the most common facial plastic surgery procedures around the world. During this operation, osteotomies are an essential component of shaping the framework in cosmetic and reconstructive nasal surgery. There are different techniques for osteotomies, that rhinoplasty surgeons must know all of the different techniques to correct different problems of the nose in this regard. To master osteotomy procedures, the rhinoplasty surgeon must understand the anatomy, know the indications & different techniques available, and know how to perform them. During this lecture, I will present the most commonly performed osteotomy techniques in modern rhinoplasty. I will share my idea with the audience regarding indications & the techniques that I used for my patients till now. During the lecture I will show videos to teach different techniques of osteotomies.

PLASTIC 2 // N° 4

Rhinoplasty: common problems in Southern Mediterranean patients
ADRIAN MARK AGIUS (Malta),

Challenges typically faced by the rhinoplasty surgeon in the central and southern Mediterranean region include both physical and psychological. Physical challenges discussed include the typically thick skin, large tip with large large drooping lower lateral cartilages, large humped nasal bones, a recessed rhinion area, and possible septal deviations. These features generally present in combination. Psychological challenges to the surgeon include the wish for a natural and ‘unoperated’ result, a desire to retain individuality and character with no radical changes. For religious and cultural reasons North African patients like to retain a degree of ethnicity and this has got to be kept in consideration.

PLASTIC 2 // N° 5

Preoperative planning: Patient selection in rhinoplasty to avoid the unhappy patient
HESHAM SALEH (United Kingdom),

“Poor results are often based on emotional dissatisfaction than technical failure”. This quote indicates how important the meticulous assessment of patients is when considering a rhinoplasty procedure. The surgeon’s aim is to reach an accurate diagnosis of anatomical and functional abnormalities with a clear understanding
of the patient’s expectations. The final goal is to achieve a successful outcome and have a happy patient. The author will present a systematic approach to patient assessment and how to deal with the difficult patient.

PLASTIC 3 // N° 7

Microtia reconstruction with costal cartilage

ALESSANDRA RUSSO (Italy),

The auricular deformity of congenital microtia is almost always associated with congenital atresia of the external auditory canal an affliction that can cause devastating physical and psychological trauma in children. Nowadays auricular reconstruction for congenital microtia should provide a child with a reasonable facsimile of an ear through a limited number of surgical procedures. Ear reconstruction is considered to be a challenging form of surgery. In cases of microtia, surgeons must reconstruct complex missing contours, which necessitates the use of a support and skin remnants to cover this support. Although the use of synthetic material has been proposed in order to avoid harvesting and carving cartilage but the best choice for auricular reconstruction is autologous rib cartilage. This procedure requires good understanding of the 3-dimensional architecture of the ear and learning the step-by-step construction of a harmonious framework (which with practice will become the most straightforward part of the procedure). Before starting the surgery it is very important the training in the laboratory for that propose we have adopted the training kit ideated by Dr. Firmin. Surgery usually performed at the age of 9 or 10 years, is planned in 2 stages. In the first stage, the framework is placed under a skin pocket. Six months later, the sulcus is created using an additional cartilage graft for projection and a skin-grafted galeal fascial flap. Remnants of the microtic ear can have many different shapes; therefore, a comprehensive approach to skin management is proposed by the most important authors, providing a simple surgical classification for all types of microtia. Furthermore, some refinements of the cartilage framework and the construction of the retroauricular sulcus have improved the results. Whenever possible, successful reconstruction of a microtic ear with autologous rib cartilage, as opposed to synthetic materials, is by far the best option, with minimum complications in experienced

PLASTIC 4 // N° 9

Extracorporeal rhinoplasty

FRANCOIS DISANT (France),

The surgical techniques of deviated noses have evolved gradually. Reduction and mobilizations techniques causing a weakening of the structural supports have given way to a more conservative surgery involving restructuring and increases. The problem of stability at long term is assured by its threefold support system. Thus, the pattern is biomechanically stable over time. Using the model of the "extracorporeal rhinoseptoplasty" has the advantage that it can be used in an endonasal approach. The construction of the model is stepwise and therefore repeatable. The best indication of "extracorporeal rhinoseptoplasty" is the reconstruction of the middle third of the nose, deviated noses even more when the overlaying skin in thin requiring a perfect regular structure

PLASTIC 5 // N° 11

TCA Peeling

JARL BUNAES (Norway),

This lecture is a review of my experience during the last 25 years with facial rejuvenation procedures.
After performing face-lifts in the 80's for some years, my dissatisfaction grew. Skin rejuvenation procedures at that time in Europe were relatively rare. Peeling was a unknown procedure, at least in my country. In the beginning of the 90's, I accidently came over the name Obagi, a dermatologist from the States. He was contacted, and I went to his personal instructional course in the beginning of 1992. Since that time we regard skin improvement as important as our surgical procedures. The combination I call "TheTotal Approach".

The lecture describes the procedures we use in my clinic outside Oslo today.

PLASTIC 6 // N° 14

The Role of Nasal Endoscopy in Sinonasal Emergencies

Reda KAMEL (EGYPT),

Sinasal emergency constitutes one of the most stressing situations amongst otorhinolaryngology practice. The introduction of nasal endoscopy helped handle such situation in a better shape with less stress and harm to patients. These situations include
- Congenital: e.g. bilateral choanal atresia in neonates
- Traumatic: e.g. foreign bodies, epistaxis, traumatic CSF leaks, intra-operative and post-operative, orbital and cranial complications of FESS and bleeding
- Inflammatory: e.g. orbital and cranial complications of acute and chronic sinusitis, huge mococeles and fungal rhinosinusitis.
- Neoplastic: visual compromise in sinonasal benign and malignant tumors and pituitary apoplexy and bleeding in vascular tumors like angiofibroma.

It is concluded that nasal endoscopy plays a major role in sinonasal emergency, but experience and tools are needed. Moreover, one should be ready to resort to external approach in case of failure to handle matters transnasally.

PLASTIC 6 // N° 16

Nasal base surgery: Indications, techniques, complications

ALIREZA MESBAHI (Iran),

Nasal base surgery is one of the important aspects of Septorhinoplasty operation especially in some ethnic groups. The goal of surgery is to create a nice nose with good harmony to all aspects of facial features. In this regard, alar base shape & width is very important. There are many different techniques in the literature regarding nasal base surgery. During this lecture I will share my personal philosophy regarding nasal base surgery according my experience in more than nine thousands of rhinoplasty operation. I will show the best different ways regarding the change of shape & size of nasal base & nostrils. I will show my simple technique by some video clips. I will discuss regarding some tricks to prevent complications after nasal base surgery.

PLASTIC 7 // N° 17

Tips on endoscopic septorhinoplasty: What I've learned from 2 decades using this technique

IGNAZIO TASCA (Italy),

CONTENTS: The rapid development in technology, during the course of the last 2 decades, has determined the use of new instruments also in the field of rhinoplasty. The technological innovations, even if they did
not substitute traditional surgery, play the role of supporting the consolidated techniques and sometimes they become real alternatives. This apparent revolution in septorhinoplasty is witnessed by the publication in literature of numerous articles regarding the use of new instrumentations with a comparison of risks and benefits with respect to traditional surgery. Accordingly, the endoscopic septorhinoplasty has become very popular since it allows to perform some critical steps under direct vision, demonstrating to be very helpful also for teaching purposes. Under endoscopic guide, it is possible to perform the reduction and the modelling of nasal dorsum with a powered rasp, and to target the positioning of grafts. It is possible also to use the microdebrider in the secondary nasal dorsum surgery, for example fo the removal of hypertrophic scars.

In the beginning, the diffusion of these new technologies was partially limited by the high cost of the instrumentations and by the necessity of a surgeon’s training. In our experience in agreement with recent literature data, the adoption of these new methods had positive results both for patients and hospital structure. Infact, the use of miniinvasive procedures determined a reduction of the surgical trauma for the patient with a consequent lowering of the time of hospital stay that means a reduction of sanitary costs. This last aspect made it possible to reduce the initial high cost of the instrumentations.

KEYWORDS: endoscopy, septorhinoplasty, technique

PLASTIC 7 // N° 19

Endonasal or open rhinoplasty: which interferes less with tip support?

XAVIER RUI (Portugal),

There are several approaches for rhinoplasty. The open approach is usually selected when major reconstruction of the nasal architecture is anticipated, as it affords an unparallelled exposition of the nasal framework. The endonasal approaches are reserved for cases requiring minor modifications of the nasal tip and nasal dorsum. The advantage assigned to the endonasal approaches is less disturbance of the natural anatomy of the nose, resulting in faster resolution of postsurgical edema and a more predictable and reliable surgical result.

The endonasal approaches, however, often use an intercartilaginous incision and a marginal incision prolonged by a complete transfixation incision. Each of these incisions will break a major tip support mechanism, namely the attachment of the alar cartilages to the upper lateral cartilages at the scroll area and the medial crura footplate attachment to the caudal septum. The open approach, on the other hand, will only break the so-called minor tip support mechanisms, namely the interdomal ligaments, the membranous septum and the attachment of the alar cartilages to the overlying skin and musculature.

The implications of these interferences of the tip support mechanisms to the long-term stability of the tip are discussed.

PLASTIC 7 // N° 20

Scarless nasal valve surgery

JAN BALCZUN (Germany),

Introduction: Numerous methods have been described to open the nasal valve in patients with nasal valve collapse. Most of these techniques require cutaneous incisions with a risk of scaring.

Methods: The technique described here is a strict endonasal procedure. The placement of the suture will pull the lateral crus in a laterodorsal direction. The intensity may be varied through the tension of the suture.

Patients: Since July 2009 we did already treat more than 70 patients with nasal valve stenosis using the technique described above.
Results: Immediately after surgery the patients reported a great improvement in nasal breathing which proved to be stable and lasting.

Conclusion: This technique is a simple procedure for treatment of nasal valve collapse with great results without visible scarring.

PLASTIC 8 // N° 21

Rhinoplasty: the fine line between form and function
FRODITA JAKIMOVSKA (MACEDONIA)

Rhinoseptoplasty is widely regarded as the most challenging of all plastic surgical procedures. This course reviews philosophy, principles, techniques and nuances pertaining to successful rhinoseptoplasty – nasal surgery with the aim of creating both functional and aesthetical improvements. Structural principles and surgical anatomy will serve as the foundation, emphasizing the areas in the nose in which the intersection of form and function are most important. In this course, the speaker will try to deliver important messages regarding what surgeons have to know for a successful correction of deviated nose. Importance of septal straightening by using the techniques of L-strut cut, spreader grafts, extracorporeal septoplasty, will be discussed. The importance of aesthetic perfection achieved by dorsal and tip surgery will be introduced with patient’s photographs in an interactive way.

PLASTIC 8 // N° 23

Rhinoplasty: A critical resume about results, pitfalls and learning curve after the first years as rhinosurgeon
GOETZ LEHNERDT (Germany), Lehnerdt G, Hoffmann TK, Mattheis M, Lang S

Rhinoplasty represents a complex and challenging surgery. Young colleagues might attend courses or listen to talks of experienced rhino-surgeons to extend their knowledge in that field, but it might also be of a great value to follow the review of lecturers, who give a frank resume about the results and difficulties of their “first years” in rhinoplasties. Which techniques can be applied? Open versus closed approach? Satisfaction of surgeon and/or patient? Revision surgery? Minimal invasive revision techniques? How to identify a catastrophe nose prior to surgery? What about the learning curve? These and many more questions will be addressed along a series of case presentations and the underlying data analysis.

PLASTIC 9 // N° 24

Preserving nasal airway function during rhinoplasty
IGNAZIO TASCA (Italy)

CONTENTS: Rhinoplasty is a surgical procedure that modifies the external aspect and the functional characteristics of the nose through manipulation of the skin, cartilage, and underlying bone. The techniques of modern rhinoplasty are based on the concept of preserving and reorienting tissues as an alternative to surgery, which involves the sacrifice of large segments of cartilage and bone, thus creating unnecessary tissue voids that recover and scar in an unpredictable way. Therefore, conservative surgery increases the surgeon’s control over the outcome, since it facilitates an appropriate balance between the corrected support structures and the tissue coating. Rhinoplasty operation is classified as "open" or "closed" according to the type of approach incision chosen by the surgeon. Classically, the main advantage of the open technique is that it exposes the operating field better, which facilitates above all cartilage correction and graft placing. The drawbacks are the appearance of an inevitable transcolumellar scar, which can be complicated by the formation of hypertrophic keloids and even necrosis of the columnella flap in rare cases.
Furthermore, it should be remembered that in open rhinoplasty, interrupting the relationship between cartilaginous structures and external skin coating hinders the visual evaluation between the dorsum and the projection of the tip, and this determines a global impairment of the intraoperative cosmetic evaluation of the proportions of the nose. Moreover, in comparison with the closed technique, an extensive dissection of the skin from the osteocartilaginous skeleton may result in an increase in operating time, appearance of persistent edema at the tip, and more contraction scarring of the tissues. In our opinion, these drawbacks limit the use of open surgery to its classical indications, such as posttraumatic nose, labio-palatal clefts, and complex secondary rhinoplasty. In all the other cases, we prefer to use the closed technique that is more conservative and respectful of nasal function. The concept of function in rhinoplasty derives from the recognition, and, therefore, the preservation of some generic and specific anatomical segments. The purpose of this presentation is to describe these segments and underline their importance with regards to nasal function.

KEYWORDS: nasal function, rhinoplasty, techniques
Mechanical and inflammatory factors in obstructive sleep apnea in children: from diagnosis to treatment

RENATA DI FRANCESCO (Brazil),

Obstructive sleep apnea is a common disease in children, accounting for about 3% of pediatric population. One of the main factors associated to this problem is adenoid and tonsil enlargement. However some children who underwent adenotonsillectomy did not show a complete resolution of respiratory disturbances after surgery and others may present a recrudescence of snoring in a long-term follow-up. There are mechanical factors, such as craniofacial and dental characteristics, and muscular physiology involved. Inflammation, as well, plays an important role in the pathophysiology of sleep apnea. The objective of this presentation is discuss those factors, as well as their identification and treatment approach.

Objective assessment of hearing in children

SEBASTIAN COZMA (Romania), Georgescu Mădălina

Aim: This instructional course presents an optimal comprehensive algorithm for the diagnosis of hearing loss in children. Since subjective methods used in older children and adults have a minor contribution to infant hearing testing, the objective battery test is the gold standard for audiological evaluation.

Method: An up-to-date practically and clinically focused methodology, which should be applied in the audiological assessment protocol, will be presented. We will discuss the modern and clinical useful tools included in the hearing battery test such as: tympanometry, otoacoustic emissions, auditory evoked potentials, auditory steady state response etc. All these tests should be clinically used on the principle of “puzzle audiological assessment” and cross-check measurements. Despite all evidence-based hearing tests which enable a topolesional diagnosis, we still lack some tools to identify different conditions as sensory-neural auditory junction pathology or inner hair-cells dysfunctions, conditions which are currently included in the auditory neuropathy spectrum disorders. Furthermore, we will discuss the advantages and limitations of the objective audiological tests, particularly the ASSR’s value and utility. We will also present relevant clinical cases which will illustrate the above noted methodology and pathology.

Conclusions: Provided that early identification of hearing loss in children has essential implications in the success of rehabilitation interventions, assessing hearing in children, and especially in young children, is a key task. This can be successfully accomplished with the use of objective testing methods developed in the recent decades. The main purpose of the objective auditory assessment is to optimally identify the auditory tonal profile for more accurate diagnosis and successful hearing rehabilitation.

Key words:

Objective diagnosis, Hearing loss, Children.

Diagnosis of hearing loss in children

ANNEROSE KEILMANN (Germany),
Hearing impairment is the most frequent sensory impairment in humans. Social and psychological implications will vary from individual to individual due to factors such as severity, age of onset, treatment / management options and the hearing status of their parents. The management of children with a hearing impairment involves a number of different professionals and, to be most effective, needs to be in partnership with parents. Diagnostic of hearing loss is based on both subjective and objective measures. Behavioural tests of hearing assessment have been in clinical use well before electrophysiological techniques. Depending on the developmental age of the child different techniques can be applied to gain information about the threshold for pure tones, understanding of speech in quiet and in noise and are essential when hearing aids or implants are controlled. The younger the children the more important are physiological objective techniques.

Aural impedance measures are an important part of the basic paediatric audiometric test battery. Another important element is the measurement of otoacoustic emissions, indispensable in the diagnostic of auditory neuropathy.

Auditory-evoked responses are electrophysiological recordings of responses to sounds that can be recorded clinically from activation of all levels of the auditory system, from the cochlea to the cortex. Amongst these responses, the auditory brainstem response (ABR) is applied most often clinically.

Diagnosis of hearing loss in children often requires a lot of time and should be done by experienced examiners, as only with sufficient information the right therapy can be conducted in order to open full inclusion to the child.

ICC 10 // N° 26

**Hearing screening in newborns**

**ANDRE CHAYS (France)**,

Permanent congenital hearing loss is one of the most frequent congenital anomaly at birth. Universal newborn hearing screening (UNHS) was introduced in numerous countries in order to allow an early diagnosis and intervention for congenital hearing impairment.

UNHS program was introduced in the entire French region of Champagne-Ardenne in January 2004.

To day about 150,000 newborns have been screened and we propose to refer our experience:
- first, we will describe our choice, methods and procedure allowing to screen more than 99% of the newborns before maternity leaving,
- then the results will be exposed and discussed, evaluating the accuracy and relevance of hearing impairment early diagnosis. The diagnosis of hearing aid impairment was carried at an average age of 3.2-month. More than 100 children were diagnosed with hearing impairment. We describe the epidemiological data of this group, their audioligic status and the modality of auditory intervention.
- at the end, we propose to compare the total cost generated by the implementation of the universal newborn hearing screening (UNHS), compared to its benefits.

Our UNHS program demonstrates its validity and feasibility for early diagnosis and intervention of congenital hearing impairment. It brought a major impact on the management of congenital hearing impairment in Champagne-Ardenne.

ICC 11 // N° 27

**Pediatric rhinitis**

**DILYANA VITCHEVA (United Kingdom)**,

Abstract:
Each of us is likely to have experienced headache either sporadically or chronically. It is estimated that 40% of the worldwide population suffers with severe, disabling headache at least annually. It is well that such a common ailment usually has a benign course, but headache may be the presenting symptom of life-threatening disease. Given this, and the frequency that the complaint is encountered in ENT practice, we as otolaryngologists should be comfortable with the evaluation, diagnosis and treatment of headache. Everyone experiences sinus headaches differently with regards to their levels of intensity and duration. Sinus Headaches can range from a minor nagging pain in the head region to pain so unbearable that one cannot even sleep or continue life normally.

Key words: headache, sinusitis

ICC 11 // N° 28
**Difficulties in the management of pediatric ear problems**
*CUNEYT ALPER (United States),*

Chronic otitis media (COM) in adults and children have both similarities and differences. There are no differences between children and adults in the definitions, clinical descriptions and pathological features of COM. Symptoms may be similar however, expression of symptoms varies with age. Children may not be aware of any abnormality or may not express themselves adequately or accurately. Symptoms may be unrecognized by adults. May be difficult to visualize the ear drum or the pathology. There are challenges in diagnosis in the special children with limitations due to anatomy, cognition and/or compliance. Skill and experience is required in approaching, examining, testing, treating, re-assessing the priorities with children. Pathology may be obscured by the changes from common otologic disease manifestations such as otorrhea, granulation tissue or polyp may hide a cholesteatoma. Audiologic evaluation may be difficult, limited or inaccurate. Imaging studies may be inadequate, due to the early stages of the pathology. In the absence of bony destruction, cholesteatoma may be missed. Deciding on when and how to operate on a dry perforation, perforation with recurrent or chronic otorrhea, retraction pocket, atelectatic ear, pre-cholesteatoma state or cholesteatoma is different in children. Cholesteatoma is usually in less advanced state in children, however, more prevalent ongoing risk factors of Eustachian tube dysfunction, recurrent upper respiratory track infections, recurrent or persistent effusion increase the residual or recurrence risk. Long life expectancy determine the surgical decision making, favoring canal wall up approaches, second look, and prolonged follow-up for higher risk of residual or recurrent disease.

ICC 12 // N° 29
**Choanal atresia**
*GHEORGHE IOVANESCU (Romania),*

Choanal atresia is a complex malformation of the posterior 1/3 part of the nasal fossa, with a narrowing or blockage of the nasal airway. The condition is the most common nasal abnormality in neonate, affecting about 1 in 5-7,000 live births. Choanal atresia is generally diagnosed shortly after birth and is usually made in the nursery by the inability to pass a suction catheters through each side of the nose into the throat. The diagnosis is confirm using flexible or rigid endoscopy. Clinically, neonate present cyanosis, especially relieved when is crying. Both unilateral or bilateral choanal atresia may be diagnosed during routine neonatal nasal catheter screening or may be discovered later (for unilateral atresia, when there is unilateral nasal obstruction associated whit mucous rhinorrhea). The CT scan is the “gold” standard for preoperative diagnosis and to choose surgical options. Undiagnosed, bilateral choanal atresia may lead to death. Management is by surgery. In the neonate with bilateral choanal atresia cases is an airway emergency and
the intranasal approach is necessary and should be take place in the first week of life. If the tolerance of unilateral atresia is clinically acceptable, the surgery can practice around age 1 year. Two surgical approaches are mainly used: transnasal and transpalatal.
From 2007 to 2012, 12 patients were admitted and treated in ENT Pediatric Department of University of Medicine and Pharmacy Timisoara, Romania. 4 were with bilateral choanal atresia and 8 with unilateral choanal atresia. None of the patients was operated by transpalatal approach. We used only transnasal approach. Puncture and dilatations was performed for 8 patients and for other 4 patients was used microdrill. For 9 patients was used stents. 2 patients presents postoperative stenosis and was necessary revision procedures.

ICC 12 // N° 30
**The pediatric patient with choanal atresia – current techniques and results**

**GABOR KATONA (Hungary)**,

The objective of the instructional course is to analyze surgical methods, adjunctive therapeutic modalities and factors affecting 14 years outcomes of choanal atresia repair. Between 1998 and 2012 a total of 49 patients aged 0-8 years underwent endoscopic transnasal choanal atresia surgery in our tertiary care pediatric hospital. Re-stenosis and reoperation rates are analyzed. Persistent restenosis rate (> or = six procedures) was 4 %. The mean number of surgery per patient proved to be as much as 2.4. Stents and Mitomycin C local application is also discussed. Tips and tricks are presented for improving results.

ICC 12 // N° 36
**Congenital laryngeal disorders**

**RICHARD NICOLLAS (France)**,

Laryngotracheal congenital anomalies cover several entities. We can classify these anomalies according to the anatomical level involved.
From the supraglottic area through trachea these concerns can be found: laryngomalacie and supraglottic cysts, vocal fold paralysis, laryngeal webs, glottic /sub-glottic stenosis, subglottic hemangioma, laryngotracheoesophageal clefts.
For each anomaly, pathophysiology as well as clinical presentation, management and prognosis will be discussed.
However, two main recent evolutions have to be highlighted: beta-blockers in the management of subglottic hemangiomas and endoscopic treatment of most of laryngo-tracheoesophageal clefts.
Anyway, pediatric laryngology, and especially for congenital anomalies remains a great challenge because it concerns a population of newborns (and even prematurates) and other malformations are often associated.

ICC 13 // N° 32
**Minimally invasive functional endoscopic adenoidectomy: reasons, technique and results**

**YURI RUESTSKIIY (Russia), Sedykh T, Martyanova N.**

Key words: adenoid, antiseptic washing, bacterial content.
Introduction. Antiseptic preparation of surgical site during endoscopic adenotony has been ignored up to date.
Objective: to study microbiological effectiveness of antiseptic washing of surgical site and antibacterial protection of surgical wound during endoscopic adenotomy.
Materials and methods. 173 children with adenoids were observed during the research. Patients of the basic group (90 children) had antiseptic washing of surgical site and surgical wound of nasopharynx using 0,02% chlorhexidine bigluconas with endoscope control. The biopsy was made three times: before the washing, after it and after the operation. Children of the control group (83 children) were not given the antiseptic washing of the surgical site and biopsy was made before the operation and after it.

Results. 90 children of the basic group had 140 strains (15 species) of bacteria with the content 103 – 108 before the washing. After the antiseptic washing of the surgical site there were 97 bacteria (11 species) with the content 103 – 106. 41 strains of bacteria (7 species) with concentration 102 – 104 were found in the surgical wound after the second antiseptic washing so bacterial content decreased by 70,7 %. 83 patients of the control group had 131 strains (13 species) with bacterial content 103 – 107 ??? on the surface of the mucous membrane pharyngeal tonsil, and after the operation 168 strains (16 species) with concentration 105 – 108 ??? were found so bacterial content decreased by 28,2%.

ICC 13 // N° 34
Tonsillotomy: what about an enlargement of indication criteria?
GOETZ LEHNERDT (Germany), Lehnerdt G, Zander S

After being practiced through centuries, tonsillotomy was in Germany vigorously criticized in the first half of the past century and finally abandoned from the books of ENT surgery. Since the beginning of the Nineties the partial removal of the tonsils by using the CO2-Laser is experiencing a veritable renaissance. Based on a more critical patient selection, in particular H. Scherer and co-workers from Berlin, K. Jahnke and co-workers from Essen and E. Hulcrtantz from Sweden could disprove the historically grown concerns of scar/abscess formation and inflammation in the residual tonsillar tissue with regard to the CO2-laser-procedure in larger patient series. After the CO2-Laser other techniques like the monopolar needle could confirm these good results after tonsillotomy. Meanwhile tonsillotomy returned to the position as golden standard therapy for obstructive tonsillar hyperplasia in children. The high rate of severe postoperative bleeding after tonsillectomy within “The Austrian Tonsil Study 2010” yet enforced the idea to minimize the indications for tonsillectomy in children. With regard to the situation in the 1950s the pendulum has meanwhile almost swung back to the opposite side, hence we have first claims to abandon tonsillectomy in early childhood. After highlighting the historic background, the surgical technique and the relevant literature, we would like to discuss the indications and contraindications for tonsillotomy with regard to the age of patients, techniques and last but not least the underlying medical history of the patients.

ICC 14 // N° 35
Neonatal thyroid and neck surgery
VINCENT VANDER POORTEN (Belgium), Hens Greet

Congenital head and neck tumors and malformations may cause direct postnatal fatal upper airway obstruction. Prenatal diagnosis nowadays frequently heralds this scenario and safe delivery of these children now can be optimized by in utero airway assessment and when needed Ex Utero Intrapartum Treatment (EXIT) maximizing the time frame for securing the airway. Definitive surgery in the neonatal period is often needed and can be subsequently planned. During this instruction course we will discuss diagnosis (3D Ultrasound, Fetal MRI, Foetoscopy) and perinatal and direct postnatal management, including neonatal definitive thyroid and neck surgery of this pathology. This is illustrated with our single center experience reporting on long term follow-up of 12 consecutive cases with prenatal diagnosis of potential airway obstruction, managed perinatally at the University Hospitals Leuven. A strategy of combining advanced prenatal imaging, prenatal fetoscopic airway exploration, and EXIT procedure can guarantee a safe airway in
patients with congenital head and neck tumors or malformations. Following safe birth, surgery in the neonatal period can provide these little ones with long term cure.

**ICC 15 // N° 37**

**Endoscopic arytenoid lateropexy for the minimally invasive treatment of bilateral vocal cord immobility: pediatric application**

**LASZLO ROVO (Hungary),**

The varied etiology of BVCI requires a wide range of diagnostic and therapeutic approaches depending on the origin and severity of the stenosis. For minimizing these complex treatment policy on the experience of the last 20 years we designed a surgical procedure based on a new endolaryngeal thread guide instrument (ETGI) for adult patients. Now we present here the modification of this device suitable for smaller pediatric airways. ETGI is based on a built-in movable curved blade with a hole at its tip in order to guide a thread in and out again between the skin and the laryngeal cavity. The loops are formed around the arytenoid cartilage cause abduction. In cases of fixations, the cricoarytenoid joints are properly mobilized as a first step with a combination of cold technique and CO2 laser. For pediatric application smaller size of ETGI was designed that can be applied even in newborns. According to our preliminary experiences this method provides an excellent immediate airway improvement. The reversibility of this procedure to a large extent minimize the need for preoperative investigations, moreover in cases of temporary lateralisations a good functional outcome can be expected. Combined with simple and readily available methods, endoscopic arytenoid lateropexy is an effective solution for BVCIs with various etiologies. The pediatric ETGI facilitates this procedure with rapid and safe creation of fixating loops at the proper position even in early childhood.

**ICC 2 // N° 4**

**Ototoxicity in children**

**ANTOINETTE ZEHNHOFF-DINNESEN (Germany),**

After definition of ototoxicity and grades of ototoxicity, audiological grading systems are presented considering the onset of ototoxic hearing deterioration in the high frequency range. The ototoxic agents aminoglycosides, macrolides, vancomycin, chemotherapeutic substances as cisplatin, carboplatin, vincristine, vinblastine, bleomycin, methotrexate, loop diuretics, salicylates, non-steroidal anti-inflammatory drugs and quinine will be discussed on the basis of the recent knowledge in pathophysiology, epidemiology, signs and symptomatology of ototoxicity. Focal points are clinical risk factors and genetic susceptibility. Pedaudiological diagnostic procedures, audiological monitoring with timing of evaluations and testing schedules as well as post-therapeutic follow up-protocols are discussed. Therapeutical strategies, rehabilitative procedures and preventive measures are presented. A separate topic are ototopical medications in case of perforation of tympanic membrane/grommet/mastoid cavity with open middle ear/pre-existing sensorineural hearing loss.

**ICC 2 // N° 5**

**Auditory neuropathy spectrum disorder in children: diagnosis and management**

**Thierry MORLET (ETATS-UNIS),**

Auditory neuropathy spectrum disorder (ANSD) is a multi-faceted timing disorder, not reflected in the pure tone audiogram, whose effects vary from patient to patient along a continuum, a fact that indicates the need for individualized approaches to achieve both accurate diagnosis and appropriate management of
ANSD affects 10-15% of patients with sensorineural hearing loss. Risk factors include prematurity, hyperbilirubinemia, chronic hypoxia, and presence of other sensory/motor neuropathies, however, there appear to be familial cases and patients who otherwise appear normal and have no risk factors. Sources of variation between patients include different etiologies, age at onset, genetics, risk factors, multiple system involvement, etc. These factors combine differently for each patient, resulting in differing ability to use auditory information, variable impact on successful language and speech development and variable success with different management approaches. This course will focus on identifying key audiometric features of ANSD, differentiation of AN/AD from EVA, cochlear nerve deficiency, and CAPD, developments in genetics, future roles of cochlear and cortical evoked potentials and appropriate recommendations for intervention.

Development of endoscopy in paediatric Laryngology

PETER BULL (United Kingdom),

The development of airway endoscopy.

Examination of the living airway began in 1854 with the discovery of mirror examination by Manuel Garcia, a Spanish teacher of singing. Its rapid adoption in Europe and North America led to rapid progress in the diagnosis and management of upper airway disease. A setback occurred with the untimely death of Frederick, Emperor of Germany following the intervention of Morrell Mackenzie, an early proponent of mirror laryngoscopy. Developments in anaesthesia and laryngoscope design by pioneers such as Chevalier Jackson and Victor Negus allowed more precise surgery to be performed and the concept of suspension laryngoscopy and magnification was introduced by Kleinsasser in the 1950s and 60s.

Further progress came with advances in optics, from fibre bundles originally conceived by John Logie Baird, and the now universal rod lens telescopes of Harold Hopkins in conjunction with the cold light source of Karl Storz.

Imaging, initially difficult and unpredictable, has become routine with the development of digital video and still photography, and recent advances in imaging technology raise the possibility of virtual airway endoscopy as a practical and safe alternative.

Evaluation of the child with stridor

MARTIN BAILEY (United Kingdom),

A systematic method of investigating stridor in children is presented, based upon our experience with over 600 paediatric airway endoscopies each year at Great Ormond Street Hospital for Children, London.

In taking a history, stridor must be distinguished from stertor. Significant other symptoms include a hoarse voice or cry, cough, cyanotic attacks, feeding difficulties and failure to thrive. A history of neonatal intubation must be sought.
On examination, the stridor may be inspiratory, biphasic or expiratory, and tracheal tug, sternal recession or intercostal/subcostal recession may be present. The voice/cry and any cough should be carefully listened for. Taken together with the symptoms, the physical signs will give some indication of the level of airway obstruction and of its severity.

Radiological investigations may include a soft-tissue lateral neck X-ray, PA chest film, Cincinnati view, a barium swallow and if necessary video screening of the airway and a bronchogram. CT “virtual endoscopy” is sometimes useful.

However, endoscopy is the definitive investigation for a child with stridor. Awake flexible fibreoptic laryngoscopy is a useful screening investigation for laryngomalacia in infants, but the gold standard is direct laryngoscopy and bronchoscopy under general anaesthesia, using a systematic approach with appropriate instrumentation.

In our series of 752 new patient endoscopies over a period of 5 years the commonest causes of stridor were subglottic stenosis, laryngomalacia, vocal cord palsy, tracheomalacia, foreign body, subglottic haemangioma and respiratory papillomatosis.

**ICC 4 // N° 9**

**Endoscopic Interventions in the paediatric airway**

*MICHAEL KUO (United Kingdom)*, *Bateman Neil*

Paediatric airway endoscopy has for some time been the mainstay for diagnostic assessment in the paediatric airway. Advances in anaesthetic techniques and close collaboration with anaesthetic colleagues have extended the possibilities of therapeutic interventions over recent years.

Traditionally performed procedures, such as the endoscopic removal of papillomata, have benefitted from refinement in techniques and the scope of other interventional procedures has been extended. Balloon dilatation is now an established technique for the treatment of laryngotracheal stenosis and this can be used as an adjunctive procedure to other interventions such as endoscopically performed cricoidotomy. The placement of posterior cartilage grafts endoscopically has become a standard technique in many paediatric airway surgeons’ practices and has distinct advantages over an open technique.

Techniques of airway endoscopy and anaesthetic collaboration will be discussed as well as the technical aspects of endoscopic airway interventions.

**ICC 4 // N° 10**

**Children Laryngology**

*MARKUS HESS (Germany)*,

The focus of this instructional course is to learn about diseases and disorders of the larynx in children. Typical and frequent clinical cases will be presented, followed by office-based assessment techniques. Tips and tricks for rigid and flexible laryngoscopy in the office will be shown. One special focus will be how to deal with hoarseness and how to assess and treat voice disorders in children.

**ICC 5 // N° 11**

**Paediatric Subglottic stenosis: Have we achieved anything in the last 10 years?**
The milestones in treatment include open cartilage grafting, cricoid split, endoscopic grafting and radial dilatation. These were all available 10 years ago. In the last 10 years there has been some progress with tissue engineering, nerve re-inervation and transplantation but the bulk of our work has changed little. Where do we see the next "breakthrough" and how do we undertake innovations in surgery with current ethical constraints.

**OBJECTIVES**

Our goal is to avoid complications at bronchoscopy and oesophagoscopy during FB removal.

**MATERIAL AND METHODS**

This is a retrospective study at a tertiary referral children’s hospital. In the last five years until 2012, 622 bronchoscopies and 185 oesophagoscopies were performed under general anaesthesia.

**RESULTS**

92 Fbs were removed from the bronchi. Five cases needed repeated procedure due to incomplete removal. 72 FBs were found in the oesophagus. There were two oesophageal perforations with uncertain etiology. Due to the immediate surgical interventions both children recovered.

**CONCLUSIONS**

The first doctor who meets the patient in the operating room has the best chance to remove the FBs. After FB removal from the bronchi a repeated check-up endoscopy is necessary. Perforation is not always recognizable by oesophagoscopy, if it is suspected, contrast radiography even CT should be performed. The most dangerous Fbs in the stenotic oesophagus are chicken bones and pieces of meat. The success depends on the whole team and on the paediatric hospital background.

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Bilateral simultaneous cochlear implantation in this series of children was safe and required no significant increase in surgical time and hospital stay compared with unilateral procedures.

**ICC 8 // N° 20**

**Critical age for implanting the second ear in paediatric cochlear implant recipients**

*JOHN GRAHAM (United Kingdom), Deborah Vickers*

We attempted to answer the question of whether there is a ‘critical age’ after which a second, contralateral cochlear implant is unlikely to provide enough speech perception to be of practical use. Outcome data, in the form of speech perception test results, were collected from 11 cochlear implant programmes in the UK and one centre in Australia. Of those 34 subjects for whom complete sets of data were available, the majority (72%) of those receiving their second (or unilateral) implant up to the age of 13 years scored 60% or above in the Bamford Kowal Bench (BKB) sentence test, or equivalent. In contrast, of those nine receiving their second or unilateral implant at the age of 15 or above, none achieved adequate levels of speech perception on formal testing.

A discriminant function analysis performed on the data suggests that it is unlikely that a second contralateral implant received after the age of 16 to 18 years will, on its own, provide adequate levels of speech perception.

The results provide support for the concept of a ‘critical age’ for implanting the second ear in successful congenitally deaf unilateral cochlear implant users. This would argue against ‘preserving’ the second ear beyond a certain age, in order to use newer models of cochlear implant or for the purpose of hair cell regeneration and similar procedures in the future. The results suggest a new and more absolute reason for congenitally deaf children to receive bilateral implants at an early age.

Keywords *

critical age, congenital deaf, cochlear implant, second ear

**ICC 9 // N° 22**

**ORL manifestations of Tourette syndrome**

*FREDERICK KOZAK (Canada),*

Tourette syndrome is a neurodevelopmental disorder characterized my motor tics and at least one motor tic. Prevalence rates range from 0.6 – 1% making it quite common in our population (1 in 100-200 individuals). Numerous cases present to the otolaryngologist as the motor tics affect areas of the head and neck and the vocal tics are thought to be secondary to conditions affecting the ear, nose and throat. Tics and Tourette syndrome in general will be reviewed with a focus on those areas that relate to the otolaryngologist utilizing case examples with video clips. This instructional course will provide participants the knowledge and information to identify those patients who present to their office who previously have been misdiagnosed or undiagnosed. If you don’t know what to look for you won’t see it.

**ICC 9 // N° 24**

**Secretary otitis media**

*NICOLAS MANSI (Italy), Antonio della Volpe*

Otitis media with effusion (OME) is one of the most frequently met pathologies in small children. Long-term persistence of the liquid in the middle ear cavity correlates with the impairment in speech acquisition and poor results in school.
OME is characterized by an inflammation of the middle ear in the absence of clinical signs of acute infection. The multiplicity of terms used (Secretory Otitis Media, Otitis Media with effusion, Glue ear etc.) corresponds to a variety of treatments, ranging from non-conventional therapies, rehabilitation, drug therapy and various types of surgical treatments.

This course would be an overview of all aspects of etiopathogenesis of OME, giving particular emphasis to the perspective of EBM.

Otitis media with effusion (OME) is the most common cause of acquired hearing loss in childhood and has been associated with delayed language development and behavioural problems. This condition has a point-prevalence of about 20% at the age of two years, a time of rapid language development. It is most often asymptomatic. Effective treatment exists for clearing effusions. Some have argued, therefore, that children should be screened and treated early if found to have clinically important OME. However, there is a high rate of spontaneous resolution of effusions and, for some children, effusions may represent a physiological response that does not reduce hearing significantly or impact negatively on language development or behaviour.

The large diffusion of OME in childhood, has important implications in terms of economic, social and health aspects, in fact, it is estimated that the United States will spend no less than $ 4 billion per year.

Since not all children require a functional assessment, what are the diagnostic and treatment most appropriate? The therapies offered, in fact, ranging from pharmacological approaches, rehabilitation services and some surgical procedures. To answer these questions, in that course we will analyze all the major topics, according with the most recent literature.

KEYNOTE PEDIATRY 1 // Evolution of pediatric airway surgery

MARTIN BAILEY (United Kingdom),

Paediatric airway surgery has developed enormously over the last forty years. From a time when tracheostomy was the dominant treatment for airway obstruction in children, we have moved into an era in which tracheostomy is avoided as far as possible and has almost become an intervention of last resort.

This evolution has resulted from three parallel developments. Firstly, neonatal and paediatric intensive care has made it possible to maintain a child’s airway by means of endotracheal intubation for extended periods of time. Secondly, the development of Hopkins rod-lens endoscopic instrumentation has revolutionised both diagnosis and treatment. Thirdly, advances in surgery and anaesthesia have permitted the adoption of new techniques which can often avoid the need for tracheostomy in a wide range of different conditions. Some of these techniques depend upon endotracheal intubation for temporary airway support, while others need intensive care back-up to be available in case of need.

This evolution in paediatric airway surgery has included advances in both endoscopic treatments and open reconstructive techniques for a variety of pathologies. There has sometimes been a progression from early attempts at endoscopic treatment through to open surgical reconstruction, followed by a swing back to more advanced endoscopic techniques (or in one instance a transition to medical therapy). This will be illustrated by examining progress in the management of such conditions as subglottic stenosis, laryngomalacia, subglottic haemangioma, laryngotracheal cleft and recurrent respiratory papillomatosis. Finally, the remaining place of paediatric tracheostomy in the present era will be assessed.

Paediatric otolaryngology in the UK and North America has largely developed in parallel with the evolution of paediatric airway surgery, and it is now well-established and thriving as a distinct subspecialty.
HEAD AND NECK PROGRAMME
Current role of neck dissection in node-positive head and neck squamous cell carcinoma.

ALEXANDRE BOZEC (France)

Neck dissection (ND) is an important part of the surgical treatment of head and neck squamous cell carcinoma (HNSCC). The historical concept of ND implied the removal of all lymph node-bearing tissue in the neck. However, more conservative variations of ND have been performed and promoted as well. It is important to have an internationally recognized, precise nomenclature for different types of ND both for clinical and research purposes. However, as ND techniques have evolved, previously described nomenclature of ND has become confusing and less used globally.

Anatomic, pathologic, clinical investigations and prospective studies have demonstrated that the lymphatic dissemination of HNSCC occurs in predictable patterns. Supported by these studies, selective ND, which consists of the removal of select levels of lymph nodes in the neck that have the highest risk of harboring undetected metastases, has become widely accepted in the treatment of the clinically uninvolved neck. More recently, evidence supports using selective ND in a therapeutic setting in selected cases of HNSCC with limited metastatic disease.

Recently, the role of chemoradiotherapy (CRT) for preserving organs in the treatment of HNSCC has been increasing. However, the indication for post-CRT ND and its surgical extent is still controversial. In the future, the trend to tailor treatment to individual patients and to limit toxicity and morbidity may further increase the use of selective ND.

The aims of this presentation are to describe the recent evolutions in ND classifications and techniques, and to review the current indications of ND in patients with N-positive HNSCC.

Trans-Oral Robotic approach to the anterior wall of the pharyngo-laryngeal complex

PAOLO RUSCITO (Italy), Giuseppe Mercante

Introduction: Trans-oral robotic surgery (TORS) permits to achieve adequate exposition and radical excision of small tumors of the pharynx and larynx, sparing trans-mandibular or trans-pharyngeal approaches. Considering the other options to treat pharyngo-laryngeal tumors trans-­orally (microscopic laser excision – TOLS - , trans-oral pharyngo-tonsillectomy), the radical resection of <3cm lesions arising from the anterior wall of the pharyngo-laryngeal complex (base of the tongue, valleculae, supraglottic larynx) are actually considered the main indications to TORS.

Objective: describe TORS in selected oropharyngeal tumors, determining the feasibility and the functional outcome of the procedure

Material and methods: from october 2010 to july 2011, TORS was performed to treat 28 consecutive affected by T1-T2 (<3cm.s), any N, oropharyngeal, hypopharyngeal and laryngeal tumors. The anterior wall of the pharyngo-laryngeal complex represented 17 cases out of 28 (60.7%). The base of the tongue was involved in 14 cases, the valleculae in 2 cases, epiglottis in 1 case. 17 cases were primary tumors, one case was recurrent.

Results: in all cases TORS was applicable. Free margins of resection were observed in all cases. Neck dissection was performed in 7 cases, always concomitantly: 6 cases for oropharyngeal tumors, all monolateral but one; 1 case of bilateral neck dissection for laryngeal supraglottic tumor. Temporary tracheostomy was performed in 15 cases (88.2%) and kept for a mean time of .65 days. Nasogastric feeding tube was kept for m.t. of 7.5 days; the average comprehensive surgical time of procedure was 180min.s; set-up time 40 min.s; TORS 60min.s; neck dissection(s) 80 min.s. No mortality occurred. Surgical complications was observed in 4 cases (n.1 intraoperative cardiac arhythmia and n.1 intraoperative anaphilactic shock) 2 postoperative (p.o.) bleedings. Mean p.o. stay was 10 days. All patients had good functional outcome.

Conclusions: TORS is a safe feasible technique to remove limited oropharyngeal tumors whose first
indication is the radical treatment of T1 and small T2 tumors of the anterior wall of the pharyngo-laryngeal tumors.

HNS 10 // N° 26

Refinement in the surgical management of oral/oropharyngeal cancer
PIERO NICOLAI (Italy ), Cesare Piazza

Oral cancer is the sixth most common cancer worldwide and accounts for over half a million new patients diagnosed each year. Chewing tobacco and betel quid are the most common etiologic agents in South-Eastern Asia. In the past decade, infection with Human Papilloma Virus has emerged as a common associated factor in non-smoking and non-drinking young patients of both genders. Treatment goals for oral/oropharyngeal cancer are to eradicate the disease, preserve or restore form and function, and avoid or minimize treatment sequelae.

A variety of surgical approaches are available for resection of primary tumors of the oral cavity. The choice of a particular approach depends on factors such as the site and size of the primary as well as its depth of infiltration and proximity to the mandible and maxilla. Surgery for oral cavity cancer should be performed within wide margins of normal tissue of at least 1 cm. However, with such an empiric approach the muscular portion of tongue that needs to be removed cannot be always easily intraoperatively defined. Furthermore, tumor cells can migrate longitudinally following the path of least resistance, along and between tongue extrinsic muscle fibres. To overcome this potential problem, recently has been introduced and applied to the tongue and floor of mouth cancer the concept of compartmental surgery, aiming to a complete removal of the tumor along with the entire hemi-tongue and corresponding floor of mouth, sublingual and submandibular glands containing the potential pathways of spread and recurrence, such as intrinsic and extrinsic muscles, vessels, nerves, and lymph nodes. Reconstructive procedures of oral soft tissue defects should be ideally accomplished by free flaps (i.e., anterolateral thigh or forearm) according to a number of recipient, donor site, and other patient-related factors.

Management of the mandible is integral to the surgical treatment planning for tumors approaching or involving the mandible. Segmental mandibulectomy is essential when infiltration of the cancellous part of the bone is detected. Primary reconstruction of the mandible with a osteomuscular or osteomusculo-cutaneous free flap (fibula, iliac crest, and lateral part of the scapula) remains the state of art in reconstructive surgery. In selected lateral mandibular defects of elderly patients, reconstruction can be accomplished by reconstructive titanium plates and fascio-cutaneous free or pedicled flaps.

Regarding oropharyngeal tumors, surgical strategies has been declining in the past 2 decades in favour to radiation and chemoradiation therapies. However, transoral robotic surgery (TORS) has been applied for the primary or rescue management of selected locally limited oropharyngeal lesions. This approach shows low morbidity maintaining excellent oncologic results. Even if primary surgery for oropharyngeal cancer is declining, salvage surgery still play a crucial role after chemoradiation or radiation failures. In such a scenario, the surgical approach is associated to extensive resections, requiring reconstructive techniques with free flaps employment in most of the cases.

HNS 10 // N° 27

Evolving concepts in the management of neck metastasis
JATIN SHAH (United States ),

The impact of cervical lymph node metastasis on treatment outcomes from malignant neoplasms of the head and neck has been appreciated for nearly 130 years. Since the original description of neck dissection by George Crile, classical radical neck dissection had been the standard of care for nearly half a century.
However, the significant functional and esthetic morbidity resulting from classical radical neck dissection warranted the search for esthetically and functionally better operations while maintaining oncologic efficacy.

The understanding of patterns of cervical lymph node metastasis and the sequential progression of neck metastases has allowed the development of modified comprehensive and selective neck dissections to reduce the morbidity of the operation. Currently, selective operations are performed electively in patients at high risk of harboring micro metastasis in clinically negative neck. Similarly, modified neck dissections preserving non lymphatic vital structures are increasingly employed in the therapeutic setting. The current issues of controversy are in the selection of postoperative adjuvant therapy following neck dissection and the management of persistent or recurrent metastatic cancer following non-surgical treatment of cervical lymph node metastasis. These issues will be discussed and highlighted in this presentation.

HNS 11 // N° 29
Scapula free flap for reconstruction of the maxilla
CESARE PIAZZA (Italy ), Alberto Paderno

Tip scapula osteo-muscular free flap is the last acquisition in the field of palato-maxillary reconstruction. It is based on the angular branch of the thoracodorsal artery and it includes the tip of scapula together with the teres major muscle and/or the serratus anterior muscle and/or part of the latissimus dorsi muscle. The vascular pedicle is the longest available for osseous donor sites (up to 20 cm), and it is rarely involved by atherosclerosis, even in elderly patients with impending peripheral vascular disease. Vascularized bone provides an effective support to the palatal and midfacial structures, and allows subsequent dental rehabilitation with osteo-integrated implants. Furthermore, radiologic comparisons showed a remarkable morphologic homology of the bony component of this flap with the three-dimensional framework of the maxilla.

Main applications of such a free flap are bilateral inferior maxillectomies or total palatectomies (Class III defects according to Okay classification), as well as hemipalatectomy (Class II defects), especially when associated to removal of the zygomatico-maxillary buttress and/or orbital floor. Total palatectomy defects can be restored orienting the scapular bone horizontally, with its tip pointing forward, thus achieving a complete obliteration of the oro-nasal-antral opening. By contrast, in hemi-palatectomy defects the tip of scapula is positioned vertically, in order to restore the alveolar bone with its lateral border and the naso-maxillary buttress with its medial part. In this case, the hard palate is restored using the teres major muscle, sutured posteriorly to the soft palate. Reconstruction of the orbital floor can be provided by a bone graft or contouring the scapular bone with a green-stick osteotomy on its superior portion, obtaining a perpendicular surface oriented in the horizontal plane.

Donor-site complications are rarely described, and postoperative upper limb function has been evaluated by different Authors showing a mild dysfunction with little influence on patients’ quality of life. The main alternatives of this technique in maxillary reconstruction are represented by fibula and iliac crest free flaps. Choice between these different options is mainly dictated by reconstructive outcomes and donor-site morbidity. While tip of scapula can be easily harvested without a substantial donor-site morbidity (considering both functional results and postoperative complications), iliac crest is frequently associated with serious functional sequelae leading to gait disturbances and possible abdominal hernias or chronic pain. On the other hand, fibula is characterized by less dramatic consequences considering the donor-site morbidity, but its structure is hardly adaptable to the maxillary region, needing numerous osteotomies and sometimes requiring vein grafts in order to allow tensionless anastomoses to the most appropriate head and neck recipient vessels.

HNS 12 // N° 31
Management of oropharyngeal carcinoma
SANDEEP SAMANT (United States),

Incidence of oropharyngeal cancer is on the rise due to an increase in cases of HPV-associated carcinoma. In this course, we discuss the epidemiology of oropharyngeal cancer, diagnosis of HPV etiology, and radiologic patterns of spread. Rationale for non-surgical management, regimens used as well as limitations and adverse effect profile of such treatment will be presented. Finally, the surgical approaches utilized for treatment of cancers arising from various subsites of oropharynx will be presented with discussion of open as well as transoral approaches.

HNS 12 // N° 32
Targeted therapy in head and neck cancer
ALEXANDRE BOZEC (France),

Current development of molecular targeted therapies in oncology is particularly active. This presentation is a review of the recent advances in the field of molecular targeted therapies for head and neck squamous cell carcinoma (HNSCC). We analyze not only the recently published and ongoing clinical trials, but also the relevant preclinical studies, in order to identify the future directions of research in the field of HNSCC. As epidermal growth factor receptor (EGFR) signaling pathway plays a key role in the growth of HNSCC, EGFR, with its downstream effectors, represents the main target of the new therapeutic agents currently in development. Today, cetuximab, an anti-EGFR monoclonal antibody, is the only targeted therapy approved for the treatment of HNSCC in patients with locally advanced tumors, in association with radiotherapy, and in patients with recurrent or metastatic disease, in association with platinum-based chemotherapy. Future advances are expected with the integration of cetuximab and other anti-EGFR agents into induction chemotherapeutic regimens or in association with concurrent chemoradiotherapy for locally advanced tumors. Besides EGFR inhibition, new molecular targeted therapies such as mTOR, Src kinase, or IGF-1R inhibitors, acting on other activated molecular signaling pathways, are being developed. As these innovative molecules are beginning to be used in clinical practice, the identification of predictive markers for efficacy and toxicity is now a crucial issue.
Key words: cetuximab, EGFR, head and neck squamous cell carcinoma, molecular targeted therapies, angiogenesis.

HNS 13 // N° 33
Free flap reconstruction for oral cavity and oropharyngeal soft tissue defect: a surgical strategy based on standard templates
OTTAVIO PICCIN (Italy), Caliceti Umberto, Riccardo Cipriani, Luca Negosanti, Valentina Pinto

Microsurgical reconstruction has become the worldwide gold standard in head and neck oncology, because it enhances both the healing process and the patient's quality of life. Any surgical defect can be reconstructed by choosing from a number of flaps with appropriate structural features for the resected area. However, resection patterns have not been universally codified. This makes it difficult for less experienced surgeons to decide which reconstructive technique might achieve the best functional result. Flap harvesting techniques have been well standardized, whereas shaping and insetting methods have not, since the same flap is used for the same defect in very different ways. The functional results are mainly influenced by flap insetting, especially the swallowing function. An analytical and methodic approach and a few clear reconstruction reference models might also facilitate less experienced surgeons to achieve reproducible results. The purpose of this Instructional Course is to describe a standardized approach to oral cavity and oropharyngeal soft tissue defect reconstruction in terms of flap
choice, shape and insetting to be selected for each class of surgical defect. The proposed standardized surgical strategy based on reproducible templates might make it easier for less experienced surgeons to analyze the problem, chose the best technical solution and foresee the functional outcomes.

HNS 13 // N° 35

How can we avoid the complications after reconstructive microvascular technique in head and neck cancer

WOJCIECH GOLUSINSKI (Poland),

The instructional course will refer to the application of the free flaps most frequently used in reconstructive surgery following an ablative resection of locally advanced malignant head and neck tumors. The course will be divided in two parts: First will constitute an overview of the common flaps used in head and neck reconstructions (anterolateral thigh, free radial forearm, fibula flap) regarding vascular anatomy, potential advantages and limitations. In the second part we will focus on more practical aspects presenting selected cases and advocating the application of particular flaps. The great emphasis will be put on the preoperative assessment of the vascular anatomy of the flap as well, as the postoperative care. We will also present the main rules allowing to avoid potential complications leading to compromising the flap and explain how to reduce the donor site morbidity.

HNS 15 // N° 38

Total cricoidectomy in the treatment of the Cricoid Chondrosarcoma

MARCO DE VINCENTIIS (Italy), Armando De Virgilio, Mario Tombolini, Antonio Greco

The course objective is to describe and analyze a laryngeal-preserving procedure for the treatment of low-grade chondrosarcomas of the larynx. These extremely rare cartilaginous tumors arise in the cricoid cartilage in most cases. Although these are slow-growing and rarely metastasizing tumors, large chondrosarcomas of cricoid cartilage are generally treated with total laryngectomy. An oncologically radical but function-preserving approach would therefore be preferable. We will describe the technique through an analysis of our casuistry composed of 4 patients with low-grade chondrosarcomas of the larynx who underwent total cricoidectomy from 1996 to 2004. Oncologic and functional results were observed during at least 6 years of follow-up. No evidence of tumor recurrence was detected during follow-up. One month after surgery, all patients were able to tolerate a soft diet and to speak satisfactorily. Two patient was ultimately decannulated, and two patients still have a tracheostomy. However, even nondecannulated patients were able to keep the tracheostoma closed for most of the time, maintaining good phonatory and swallowing functions.

HNS 15 // N° 39

Laryngo-tracheal resection and anastomosis for neoplasms of crico-tracheal junction

GIORGIO PERETTI (Italy), Cesare Piazza

Tracheal (TRA) and crico-tracheal resection and anastomosis (CTRA) are single-stage surgical procedures aimed at treating airway stenoses of the subglottic larynx and upper half (cervical) trachea. Even though the vast majority of TRA/CTRA are performed for management of acquired cicatrical (mainly post-intubation and post-tracheotomic) tracheal or crico-tracheal stenosis, a number of series have reported their application for primary subglottic and/or tracheal tumours as well as for advanced thyroid cancers infiltrating the airway. The single most important advantage of TRA/CTRA is the possibility to circumferentially resect the pathologic tract of the airway and to re-establish its continuity in a single step by performing a direct anastomosis.
between the healthy proximal and distal stumps. Postoperative tracheotomy and/or endoluminal stents are usually not needed (except in case of local and/or systemic complications), thus allowing a fast recovery and regaining of a normal (even though shortened) airway. The impact of this surgery on swallowing, when properly performed, is virtually non-existent, whilst vocal parameters, particularly after CTRA, can be impaired in terms of lowering of vocal pitch due to removal of the cricoid arch and crico-thyroid muscles with an ensuing lack of vocal cords tension.

Even though in more recent series the final success rate of TRA/CTRA has been reported to be as high as 96%, they should be always regarded as major surgical procedures, with potential mortality and a not negligible prevalence of complications. Therefore, meticulous patient selection is always mandatory to reduce the rates of both failure and complications. Oncologic outcomes of such procedures are strongly related to the histotypes (extremely heterogeneous) and stage of the tumours to be treated: however, comparisons should be always performed with total laryngectomy, which is the only more radical surgical approach, and its obvious consequences in terms of quality of life. In this course we will discuss of TRA/CTRA indications and contraindications for cartilagineous tumours of the cricoid (mainly low- and intermediate grades chondrosarcomas), minor salivary glands lesions (mainly mucoepidermoid and adenoid cystic), and thyroid cancers infiltrating the airway.

HNS 2 // N° 5

Parotid benign tumors management

EWA OLSZEWSKA (Poland),

During the lecture the multimedial presentation of the anatomy of parotid gland and facial nerve will be presented on 3D model. Anatomic variations of facial nerve as well as the involvement of the facial nerve in relation to parotid will be discussed.

70-80% of salivary gland tumors are benign and located in the parotid gland. Approximately 20% of the tumors are malignant. There is no specific tests or markers currently available that are capable of identifying patients with a risk factor that may be associated with an early presence of a salivary gland malignancy. Recurrence of a benign tumor after excision occurs in about 10% of the patients. Pleomorphic adenoma is the most common benign tumor, usually solitary and unilateral.

The role of diagnostic tools such as preoperative ultrasonography, computed tomography and magnetic resonance imaging and their usefulness for surgery will be discussed. Ultrasound and fine-needle aspiration are criticized for being redundant. Fine-needle aspiration cytology (FNAC) is found to be a good sensitive and specific technique for the diagnosis of most of parotid lumps. FNAC has drawbacks, even under optimum conditions and may be associated with poor levels of diagnostic accuracy, particularly outside the specialized clinic environment. Ultrasound-guided core biopsy is a relatively recently described technique in the parotid gland which has been well tolerated and has demonstrated a high degree of diagnostic accuracy in several studies. Even if it helps the surgeon in planning the operation and assessing whether the cross-sectional imaging is needed.

The decision for surgical excision of parotid tumor is mostly undertaken based on clinical and radiological findings. The aim of the surgery is to achieve complete resection of the tumor. The amount of macroscopically healthy parotid removal depends on the location of the tumor within the gland and its relationship to the branches of the facial nerve. Parotid gland masses can extend medially into parapharyngeal space in two ways: 1. It can pass posteroinferior to the stylomandibular ligament, or 2. The tumor can pass through the stylomandibular tunnel into the parapharyngeal space, forming a dumbbell-shaped mass.

The art of the surgery is constantly evolving relies on the conception of new ideas and modifications of old techniques. Superficial parotidectomy is the preferred method for treating benign lesions of the parotid gland. Several methods of identification and dissection of the facial nerve have been reported. The role of
the buccal branch of the facial nerve used as a guide in retrograde approach will be discussed. Pitfalls of parotid surgery as well as complications will be presented.

HNS 3 // N° 6
Key point in thyroid surgery
JOSE SANTINI (France),

- Main objectives : to show my personal experience with the audience regarding 3 types of surgery i.e. :
  - diagnostic lobectomy ;
  - total thyroidectomy for cancer ;
  - lymph nodes direction in the central compartment.

- Audience : the workshop is mainly dedicated to surgeons with some experience in thyroid surgery. However, surgeons in training could be interested in attending this workshop.

- Focus on :
  - Relevant surgical anatomy.
  - Laryngeal nerves sparing using monitoring and performing dissection adequately.
  - Sparing functional parathyroid glands with a special interest in their vascularisation.
  - Lymphatic drainage of the thyroid and the consequences on lymph node dissection technique in the control compartment.

HNS 4 // N° 8
Reconstructive laryngectomy
JEAN-CHRISTOPHE PIGNAT (France), Dr Ambrun Alexis

During this course, we will expose our technique of partial laryngectomy. We have modified the usual technique of crico-hyo-(epiglottio) pexy into a plasty technique. The aim is to be as conservative as possible to keep the 3 laryngeal functions.

After the surgical description, we’ll expose our indications and our results with an analysis of 157 patients treated between 2000 and 2007 in terms of survival and functionality

In conclusion, we’ll show that these modifications allows for the patients, a better functional result and survival rates similar to the classical technique described before.

HNS 4 // N° 10
Salvage surgery after Chemo/Radiation failures in Laryngeal Cancer
GIUSEPPE SPRIANO (Italy),

Early stage squamous cell carcinoma of the larynx can be treated with either partial laryngectomy or external beam radiotherapy. Even though total laryngectomy is still the most applied surgical procedure after RT failure, selected recurrences can be managed by either open neck or endoscopic surgery. Endoscopic LASER resection is reserved to strongly selected recurrences. Supraglottic and vertical partial laryngectomy have been successfully employed as documented in literature. Supracricoid partial laryngectomies (SCPLs) have been introduced as conservative surgical options in mid-sized, previously untreated laryngeal tumors, while there are only a few reports focusing on their indications as salvage
treatment after RT failure. Moreover subtotal laryngectomy with tracheohyoidopexy has been recently employed in selected advanced laryngeal cancer by several major oncologic Italian groups. Surgical salvage is often performed by total laryngectomy because of lack of experience in the technique of conservation surgery of the larynx, as well as the belief that increased complication are associated with partial laryngectomy of irradiated cartilage and that negative tumor margins are difficult to achieve in fibrotic edematous larynx. In reality an accurate selection of the patients both for tumor extension and general condition, associated with the increase of surgeon experience in partial laryngectomy, permit to reduce the number of total laryngectomy necessary in salvage surgery. The group of instructors proposed for this course is among the most experienced surgeons in SCPL in Italy and recently collected the data of 78 patients coming from 5 tertiary referral center submitted to SCPL as salvage surgery. Aim of the course is the discussion of the feasibility of partial laryngectomies as salvage organ preservation surgical strategies after RT failure, analyzing oncologic and functional outcomes of different technique employed.

HNS 4 // N° 11
Salvage total laryngectomy in radiochemotherapy aera
LOBNA EL FIKY (Egypt ),

Primary total laryngectomy (TL) for advanced laryngeal carcinoma was considered a standard modality with minimal complications. In the last 2 decades the organ preservation protocols using chemoradiotherapy were introduced to improve the quality of life of these patients. This resulted in less primary TL and more salvage TL being performed. We compare retrospectively the post-operative complications of both types of surgery, regarding the postoperative hospital stay, development of pharyngocutaneous fistula, and long term dysphagia. Identification of patient’s or tumor’s factors related to the development of these complications are discussed in order to decrease their occurrence and to improve the quality of life of these patients.

HNS 6 // N° 16
Management of lymph node metastasis in head and neck carcinoma
SANDEEP SAMANT (United States ),

Management of cervical lymphatic metastasis requires understanding of the surgical anatomy of the neck and patterns of lymphatic spread of mucosal and cutaneous malignancies. In this course, we discuss the rationale and indications for various types of neck dissection, show surgical techniques for minimizing complications, and present strategies for managing advanced disease. Additionally, we will describe the nuances of sentinel node biopsy and summarize the outcomes of this procedure in the management of occult lymphatic metastasis in head and neck carcinoma.

HNS 7 // N° 17
Local flaps for facial skin cancer
GILLES POISSONNET (France ),

Introduction
According the defect, many options are possible to repair cutaneous loss: direct sutures, skin graft, local flaps and regional or free flaps. Among them, local flaps are the most often used for facial area. We will focus on the basic flaps, particularly the ones sufficient to repair the great part of the cutaneous area.
Materials and methods
We will describe the most commonly used flaps with their pros and cons and the technical aspect of each flap.

Discussion
There are two types of flaps, the proximal and the pedicle flaps. Through case report overview, clinical indications and results are discussed.

Conclusion
Only a few techniques allow to repair nearly any facial skin loss. However, the knowledge of facial anatomy and a good practical training are required to get a good outcome.

Keywords
Facial skin cancers, Cutaneous loss, Local flaps, Reconstructive surgery

Fascio-cutaneous free flaps for reconstruction of the hypopharynx and cervical esophagus

Cesare Piazza (Italy), Alberto Paderno

Hypopharyngeal cancer is a highly aggressive disease characterized by a dramatically poor prognosis. Submucosal spread, field cancerization and second tumors are frequently observed. These features must be taken into account when considering therapeutic options and surgical approaches. Surgery or chemoradiation are both viable choices, without a clear-cut superiority in survival rates of a certain regimen. Nevertheless, surgery is frequently performed during the natural history of the disease, either as a primary or salvage procedure. A wide resection is needed in order to reduce the incidence of local recurrence, frequently requiring a tissue transfer to grant a tensionless closure of the defect.

In the last decades, a number of different options (pedicled pectoralis major, fascio-cutaneous free flaps, and different pedicled and free visceral flaps like gastric pull-up and jejunum) have been described in the international literature in order to manage the challenging problem of the reconstruction of a patent digestive tract after partial or circumferential hypopharyngectomy with or without cervical esophagectomy (not extending beyond the level of the thoracic inlet). Fascio-cutaneous free flaps in our opinion represent the first-line option. Both forearm and anterolateral thigh free flaps showed great reliability in this field, with satisfactory results in swallowing function, voice rehabilitation (with both esophageal voice and tracheoesophageal puncture), as well as a relatively low overall morbidity and complication rate, especially in relation to pharyngo-cutaneous fistula and stenosis.

Forearm free flap is characterized by a pliable and well-vascularized cutaneous layer, even in obese patients. Donor site complications are usually of minor entity but skin graft necrosis and minimal functional sequelae are fairly common. On the other hand, anterolateral thigh free flap is usually composed by a thicker subcutaneous tissue (especially in females and obese patients) and it is harvested with a generous amount of fascia lata, used to wrap the first-layer suture with a second one. Thanks to this technique and further technical refinements discussed in the course, fistula and stenosis rates are even lower than those using radial forearm, making it the first choice in circumferential hypopharyngectomy.

After chemoradiation alone

Doris Maria Denk Linert (Austria),
Chemoradiation as an organ-preserving treatment modality in head and neck cancer patients does not necessarily result in functional preservation and often has a debilitating effect on swallowing function, even years after therapy. Acute and long-term dysphagia and aspiration are sometimes underestimated sequelae after (chemo-)radiation. They represent not only potentially life-threatening complications due to pulmonary consequences (aspiration pneumonia) or malnutrition but also have a negative impact on quality of life. The prevalence data vary widely—also depending on the time after end of therapy and treatment protocols. Tube feeding is necessary in a great number of treated patients - even during 5 years follow-up (13-25%, Bourhis et al. 2011).

Instrumental diagnostics of swallowing function with FEES(ST) [fiberoptic (flexible) evaluation of swallowing (with sensory testing)] and/or videofluoroscopic swallowing study are indispensable to reveal the pathophysiology of dysphagia and to establish a therapy regimen. Moreover, patient-related scales should be used.

In case of insufficient oral nutrition, non-oral feeding (PEG) has to be provided. Functional swallowing therapy, performed by speech language pathologists, comprises individually tailored causal, compensatory and adaptive treatment modalities. Additionally dietetic care may be useful. In case of dysphagia onset during radiation, functional swallowing treatment should start as early as possible. Early therapy onset seems to be a positive prognostic factor of therapeutic success.

Until so far, no possible prevention strategies (dose and protocols of radiation, structures to be spared) have been defined. Therefore, prospective clinical trials are necessary for further research.

HNS 8 // N° 22

**After surgery for laryngeal cancer**

MARIA KYNIGOU (Greece),

Human larynx is involved in 3 major functions: respiration, phonation and deglutition. All of them may be affected in patients with larynx tumors, either by the tumor itself or the chosen therapeutic modality.

Surgery, radiation, chemotherapy and combination of them are currently used for laryngeal cancer treatment.

Patients with larynx tumors often experience swallowing difficulties, regardless which modality is chosen. Laryngeal cancer surgery includes total laryngectomy and a variety of conservation or partial laryngectomies, endoscopical or open-neck, that aim to minimize the functional impairment without compromising the oncological outcome.

All patients with larynx Ca should be evaluated both pre- and post treatment for potential dysphagia.

Functional Endoscopic Evaluation of Swallowing (FEES) and Video Fluoroscopy Swallow Study (VFSS) are the ‘gold standards’ of dysphagia instrumental diagnosis.

FEES is a safe, reliable, portable, easily performed procedure by ENT physicians. It involves passing intranasally a flexible endoscope to the pharynx and allows direct visualization of the larynx and proximal trachea while the patient is fed colored food of various consistencies and amounts. During FEES we can check both the sensor and motor components of swallowing. We may perform it as a bedside procedure and repeat it as often as needed while we may try the implementation of compensatory techniques.

FEES is considered more sensitive than VFSS for aspiration detection. All these make FEES extremely attractive for use after laryngeal surgery.

FEES and/or VFSS lead us to establish a strategy of rehabilitation in case a swallowing disorder is detected.

In the literature we find a large heterogeneity of surgical procedures, dysphagia rates and rehabilitation methods.

Age, advanced T and N stage of the tumors, extent of surgical excision, radiation and chemoradiation before or after surgery seem to deteriorate the functional status.
We need yet more data to lead us to unified protocols of diagnosis and treatment of dysphagia after surgery for laryngeal cancer and establish decision making rules for the treatment modality appropriate for each patient.

HNS 9 // N° 23

**Juvenil angiofibroma**

*LUIZ U SENNES (Brazil)*

The juvenile nasopharyngeal angiofibroma (JNA) is a rare fibrovascular tumor that occurs in young males. Its etiology is still controversial and seems to be related to microhemorrhages and fibrous repair. It’s not a true neoplasia and spontaneous regression to fibrous tissue can occur. However, it presents an aggressive behavior, destroying and invading the skull base structures and even the intracranial fossa.

JNA growth is very peculiar, invading through narrow and high resistance areas, suggesting biological factors more than physical ones. On these young males there is a concomitance between tumor development and facial growth by “displacement”, predisposing the tumor invasion and expansion inside the pterygopalatine fossa.

The typical symptoms, fibroscopy and CT scan can encourage an early diagnosis. But, some patients present very large tumors with severe bleeding, anemia and facial deformation.

Treatment is a great challenge because it involves young patients with a multiple branched and vascularized tumor. For small tumors the endonasal endoscopic surgery is the best option. Preoperative embolization is controversial in these cases. However, in extended intracranial extension, embolization and even a combined craniotomy approach can be used. The treatment should be sufficiently aggressive to fully remove the lesion and, at the same time, as conservative as possible to prevent sequels. We will present our experience with 180 patients with JNA treated at the Otolaryngology Department of the University of São Paulo School of Medicine over the last 30 years.

HNS 9 // N° 24

**Contemporary management of differentiated carcinoma of the Thyroid Gland.**

*JATIN SHAH (United States)*

The steep rise in the incidence of thyroid cancer worldwide has generated significant interest in streamlining management of differentiated carcinoma of the thyroid gland. The utility of well described prognostic factors in developing risk group stratification has now been widely employed and adopted also by the American Thyroid Association in its most current guidelines. The risk group stratification utilizes patient factors, such as age and gender and tumor factors such as histologic differentiation, tumor size, extrathyroid extension and the presence of distant metastasis as significant factors. Patients who fall into the low risk category are managed by appropriate relatively conservative surgical intervention without the need for any adjuvant treatment in majority of cases, with excellent long-term outcome. In contrast, patients who fall into the high risk category require aggressive surgery and aggressive adjuvant treatment to improve local regional control and long-term survival. Patients who fall into the intermediate risk group category require, individualized decision in selection of appropriate surgical procedure and adjuvant therapy. The role of elective surgery for regional lymph nodes in the neck remains debatable. Similarly, the extent of surgery for unifocal intrathyroidal tumors in low risk patients remains debatable. The role of adjuvant radioiodine ablation similarly remains in question in those patients who fall into the low risk category and who do not have postoperative measurable thyroglobulin levels. These issues will be discussed at length during this presentation.
KEY HNS 1 // Face lift: State of the Art
JOSE SANTINI (France),

- Main objectives: to share our experience of a specific technique referred to as “the SMAP facelift”.
- Audience: any surgeons interested in facial rejuvenation.
- Focus on:
  - Anatomy of the SMAP i.e. superficied musculo aponeurotic platysma.
  - Deep facial ligament.
  - Relationships between the SMAP, the deep ligaments and the facial nerve.
  - The way, we manage the SMAP lifty, the SMAP resection and the SMAP fixation.
  - The way we adjust the subcutaneous dissection to the patient’s requirements.
  - The way we tailor the resection of the skin excess in order to get the best scar.
  - A few case reports and videos will illustrate may presentation.

PLENARY HNS 1 // Diagnosis and treatment of malignant tumours of the parotid gland
VINCENT VANDER POORTEN (Belgium),

This instruction course focuses on recent progress in diagnosis, treatment, prognosis, and outcome of parotid cancer. Modern imaging allows evaluation of the anatomical extent of the cancer and its relationship to the facial nerve, and the World Health Organization Histological Classification facilitates consistent diagnosis. Surgery is the treatment of choice with preservation of a functioning facial nerve. Resection of the facial nerve is only done when there is evidence of nerve dysfunction. The N0 neck should be addressed in advanced stage and high-grade cancers, but the choice between elective surgery and elective irradiation remains controversial. Low-stage, low-grade tumors can generally be cured by surgery alone, but postoperative
SNORING AND SLEEPING PROGRAMME
Polysomnography and flexible pharyngoscopy as essential methods in evaluation of patients with sleep disorders breathing: Theoretical and practical experience
ADRIANA NEAGOS (Romania), Codrut Sarafoleanu

The pharyngeal structural modifications are essential elements in the appearance of the obstructive sleep apnea syndrome. In this context flexible nasopharyngoscopy performed during sleep or waking is essential method which makes an assessment of the obstrucion of upper airway. In order to complete and correct diagnosis of patients with obstructive sleep apnea syndrome, fibroscopy data results must be correlated with data obtained by polysomnographic examination. The major difficulty for patients with obstructive sleep apnea syndrome is partial or total obstruction of the pharyngeal pathway that occurs during sleep, and which is integrally related to pharyngeal changes. In order to evaluate them is necessary to perform investigations flexible nasopharyngoscopy. Polysomnography is the diagnostic method of sleep disorder breathing, making conditions it is well established: physiological sleep not medication induced. The two methods of investigation are absolutely necessary in evaluating of patient with sleep disorders breathing, but the data should be correlated together, no one method has made individual diagnostic value. Why is important to know this thing? Because there are many therapeutic options, and for patient is necessary to choose the best options.

Recent diagnosis and therapeutic modalities for snoring and OSA
YASSIN BAHGAT (Egypt), Bahgat Mohamed

Snoring is an important and more common health problem and it may be accompanied with sleep apnea which may cause many cardiac, metabolic, psychological and neurological morbidity.
In this instructional course the recent diagnostic methods used will be illustrated with special concern about:
  • Pathophysiology of snoring/OSA,
  • Screening protocol to OSA,
  • Tricks and tips in sleep endoscopy.
  • polysomonography from ENT point of view.

Also recent therapeutic modalities will be demonstrated including:
  • Minimal invasive procedures in snoring & OSA
  • Expansion sphincter pharyngoplasty and its modification by Italian group.
  • Hyoid suspension through thyrohoidopexy
  • Tongue base procedures
  • Recent Transoral Robotic Surgery (TORS) for the tongue base as described by Claudio Vicini (Italy).
  • Maxillomandibular advancement
  • . Multilevel surgery concept to improve the success rate and its staging to diminish postoperative morbidity and complication.
  • The role of CPAP and tracheostomy in the management of severe OSA will be discussed.

Neurostimulation and apnea
PHILIPPE ROMBAUX (Belgium),
Patients with moderate to severe sleep apnea are intolerant or non compliant to the nCPAP standard therapy in about 20% of the cases. For these patients, alternative treatment need to be proposed and surgery in the hypopharyngeal area have been attempted to achieve a decrease in most of the sleep parameters. Unilateral stimulation of the hypoglossal nerve, the sole motor nerve of the intrinsic and extrinsic musculature of the tongue, was described 15 years ago as one of this alternative treatment. With recent technological advances, the neurostimulation of the tongue seems to be a promised new treatment for the apnic patient. Different devices exist acting on the hypoglossal nerve and delivering muscular tone activity during the night. Three clinical trials have been published with encouraging results. The question is still open if the neurostimulation must act on the entire musculature of the tongue (hydrostat model) or on the genioglossus muscle alone, known as the most important retrusor muscle of the tongue. We will discuss in this overview the basic principles of neurostimulation for apnic patient, the results of the different clinical trials focusing on the Imthera’s trial we’ve conducted, and on the tremendous changes in the quality of life this kind of treatment offer to our patients.

**SNORING 2 // N° 6**

**Update on Palatal surgery for Obstructive Sleep Apnea**

*OTTAVIO PICCIN (Italy), Sorrenti Giovanni, Ignacio J Fernandez*

Nowadays palatal surgery is the most performed surgery for obstructive sleep apnea (OSA) because of its large spread and the fact that obstruction at the level of the oropharynx is the most common feature of obstruction in the airway.

Although UPPP remains the most common surgery for OSA, it has a success rate of about 50% in unselected patients, and may also result in considerable morbidity. Several studies have demonstrated that a common cause of UPPP failure is persistent retropalatal obstruction.

So over the years many modifications of UPPP have been proposed to address the anatomical variations of the pharynx and minimize morbidity.

Nowaday the type of procedure done for patients with problems of soft tissue obstructing the airway at the level of the oropharynx or retropalatal airway depends upon the type of problem being treated and the anatomy involved.

Moreover, to improve the surgical outcome, clinical-endoscopic examination of the upper airway (UA) has been supplemented by more sophisticated techniques such as videoendoscopy during sedation. Drug induced sleep endoscopy can provide important information to determine the site(s) of UA obstruction during sleep and to document specific anatomical features such as obstruction of the UA due to the lateral pharyngeal walls collapse which is usual in OSAS patients. This fact often may cause the failure of the classical oropharynx surgical treatment despite a good selection of the patients. Successful surgical outcome depends on proper patient selection as well as the choice of surgical procedures.

The aim of this course is to describe an up to date of review of new surgical techniques to treat oropharyngeal obstruction. The presentations will demonstrate technique and patient selection to have a forum for discussion of these iusses.

**SNORING 3 // N° 7**

**3D CT reconstructions: how can we do it ? How can it help during surgery**

*JOAO FLAVIO NOGUEIRA JUNIOR (Brazil),*

Introduction: Computed tomography (TC) generated tridimensional (3D) reconstructions allow the observation of cavities and anatomic structures of our body with detail. In our specialty there have been attempts to make virtual endoscopies and laryngoscopies. However, such application has been practically abandoned due to its complexity and need for computers with high power of graphic processing. Nowadays, with the portability and high processors that can be found on personal computers, the ability to create 3D
reconstructions, virtual endoscopies and otoscopies, segmenting and volume rendering, using DICOM files is more easy and effective.

Objective: To demonstrate the production of 3D reconstructions from CTs of patients in personal computers, with a free specific program in order to create volume rendering, 3D reconstructions, virtual endoscopies and other applications that can help planning surgery before the actual procedure itself.

SNORING 3 // N° 8

**Chronic Cough: When cough is not asthma, allergy, or bronchitis**

*CRAIG ZALVAN (United States),*

Description: Coughing costs society 100's of millions of Euros yearly. Most patients with cough are diagnosed with bronchitis, asthma, or allergy. However, many of these patients do not have these diseases and are often frustrated from the lack of a cure. Chronic cough in many of these cases is due to primarily laryngopharyngeal problems: laryngopharyngeal reflux and sensory neuropathy are the two most common.

This instructional course will detail the diagnostic workup including history and objective interventions to arrive at these diagnoses. In particular, vagal neuropathy will be discussed in detail with electromyographic evidence demonstrating the presence of a neuropathy as a possible cause with treatment suggestions..

SNORING 3 // N° 9

**Topical Intranasal drugs: Indications and Adverse effects of corticosteroids, antihistamines, ipratropium bromide, cromoglicate and saline solutions**

*OLAVO MION (Brazil),*

Nasal and paranasal infectious and inflammatory diseases are very prevalent around the world. There are a wide variety of topical medications to treat this diseases. This course will give major and day to day information about topical intranasal drugs and its indications. The great drugs groups and its uses in rhinology, for the treatment of acute and chronic diseases. Moreover, we will discuss adverse effects of corticosteroids, antihistamines, ipratropium bromide, cromoglicate and saline solutions.
FORUM
PROGRAMME
Non-invasive correction of septonasal cartilage deformities

EMMANUEL HELIDONIS (Greece), E.Helidonis, E.Sobol, Yu.Ovchinnikov, V.Svistushkin, I.Manevich, G.Velegrakis

Objective
To study laser septochondrocorrection (LSC) technology, to characterize the medical equipment, and to present clinical data for 1200 patients. The LSC uses the thermo-mechanical effect of non-destructive laser radiation for a bloodless and painless correction of septonasal deformities without disturbing the integrity of all the tissues of the cartilaginous septum including the mucosa, perichondrium, and cartilage. LSC equipment and technology have received European certificate (CE Mark) in 2012.

Methods
The equipment for non-invasive reshaping of cartilage includes a fiber laser (1.56 micrometers in wavelength), a special instrument and feedback control system, which allows to stop the laser when the procedure is completed. The LSC was performed between 1999 and 2012 on 1200 patients whose age ranged between 12 and 68 years of age including 1134 patients in Russia and 64 patients in Greece.

Results
The straightening of the nasal septum and the improvement of breathing were obtained immediately after laser procedure in all patients. No age limitations, no complications and no negative secondary effects were observed. A two year follow up did not show any alterations in the position of the nasal septum.

Conclusion
LSC is a new non-invasive procedure with many advantages over the traditional traumatic surgical techniques applied to correct septonasal deformities. The high effectiveness and the safety of laser correction procedure are ensured by strictly meeting the appropriate correction conditions and by using a feedback-controlled monitoring system.

High resolution cone beam CT, A new imaging technology in ORL-HNS

NAOAKI YANAGIHARA (Japan),

Cranial bone CTs are indispensable diagnostic tool in the ORL-HNS clinic. Development of multi-slice helical CT has improved the quality of images and enhanced diagnostic competence. However, multi-slice CT images blur fine and minute bony structures and clear images of implanted metal are unobtainable due to artifacts. From a safety standpoint, radiation doses can not be ignored. To eliminate such shortcomings of multi-slice helical CT, high resolution limited cone beam computed tomography (CBCT) using a flat panel has been developed. This new CT technology presents an excellent high resolution three dimensional view of complex bony structures in the head from any desired direction. In addition, volume rendering images provides a realistic 3D view of the complex structures. The most informative images can be chosen by the clinician on the monitor of a computer.

In the forum “Imaging”, the moderator will explain principle of CBCT shortly and then following four speakers will present important and interesting topics to make understand the audience clinical, investigational and educational value of the CBCT.

1. Jochen A. Werner: Possibilities of dosage reduction in CBCT
2. Carsten Dalchow: Visualization of implants in temporal bone surgery with cone beam CT.
3. Ylva Dahlin Redors: Digital imaging of otosclerosis; CBCT vs MSCT
4. Yasuyuki Hinohira: “CBCT for virtual simulation of endoscopic endonasal sinus surgery
5. David Leigh Sleeman?Cone Beam CT Technology, High Definition the 3D Accuitomo

At the end future development of the CBCT will be discussed.
FORUM 3 // MIDDLE EAR IMPLANT

The Maxum Hearing Implant

MICHAEL GLASSCOCK (United States),

Patients who suffer from a moderately severe to profound SNHL must wear a custom ear mold and a powerful BTE hearing aid. These patients suffer the sensation of occlusion, distortion, and as the audiologist increases gain the patient experiences acoustic feedback.

The Maxum hearing implant does away with these three common complaints associated with hearing aids in this patient group. There is no occlusion because the external processor has large vents. An electromagnet transfers the sound so there is no need for an acoustic speaker and therefore the patient does not experience acoustic feedback or distortion.

The Maxum surgery is performed in a minimally invasive manner. A small magnet encased in titanium is attached to the stapes and cemented in place. The ear canal incision is allowed the heal and then the external processor is inserted into the patient’s ear canal.

The digital processor employs noise cancellation, directional microphones, frequency specific amplification, advanced compression algorithms, and multiple listening environments. It uses fitting programs similar to hearing aids and is easily upgradable.

It is possible to obtain 50-60 dB of functional gain in the high frequencies up to and including 6K Hz. This type of functional gain without distortion or acoustic feedback increases the patient’s audibility and allows their word recognition scores to increase dramatically. Since there is no distortion, the sound is sharp and clear.
FREE PAPERS
Conclusions:
TP is an alternative surgical method for treatment of SDB related to obstructive sleep-disordered breathing (SDB) in children with adenotonsillar hypertrophy. Tonsilloplasty (TP) is a new surgical technique that includes partial tonsillectomy. 

Objective: Adenoidectomy and tonsillectomy (TE) is the standard treatment for airway infections per year (p>0.05). Recurrent snoring (30.2% in TP vs. 25% in TE), apneas (4.7% vs. 0%) and upper hypertrophy. Tonsilloplasty (TP) is a new surgical technique that includes partial tonsillectomy.

Results: Fifty one children (age 6.3±2.5 years) underwent TE and 50 children of Volos General Hospital of Volos (Greece) were compared regarding immediate postoperative course and comparable long-term results.

Method: We looked at 2 years of tonsillectomy data finding 472 patients who underwent coblation tonsillectomy. The complications and its rates of those who received prophylactic antibiotics and those who didn’t were then compared and analysed.

Results: 201 patients received antibiotics. The rate of secondary haemorrhage and infections were not significantly different between the two groups.

Conclusion: The use of prophylactic antibiotics in children who have coblation tonsillectomy does not improve complication rates and we do not recommend its use routinely.

Keywords // partial tonsillectomy; sleep disordered breathing; tonsillar hypertrophy; tonsillectomy; tonsilloplasty.

FPC04 // PEDIATRY // Audiologic evaluation of a group of children with Otitis Media with Effusion after Adenotonsillectomy
Suela Sallavaci, Suela Sallavaci (Albania)

Introduction
Otitis Media with Effusion (OME) represents a situation characterized by asymptomatic effusion in the middle ear accompanied by a retracted middle ear mobility membrane. The majority of OME cases originate from the effusions remaining after the treatment of acute otitis media or reactivation of otitis media.

The aim of the study
1-To highlight the role of Adenotonsillectomy in the resolving of OME; [ORL-Audiologic control was performed before and after surgical intervention in the 4th-6th week, and 3rd, 6th and 12th month] and,2- To compare our results with data from other similar studies as well as to conclude on whether this intervention is of any importance to the treatment of OME.

Methods
The study was conducted during January 2002 – May 2009. About 364 children were included (184 girls or 50.5% and 180 boys or 49.5%).

All children were submitted to O.RL clinical visit and audiologic examination before the intervention. From such assessment they were diagnosed with OME and presence of adenoid vegetations and/or tonsillar hypertrophy, considered to be the causes of OME in these cases.

Results
All (100%) of children showed up for the O.RL-Audiologic control in the 4th-6th week after the intervention. Among these, in 289 children the disease was considered as resolved. From the total patients who showed up for re-controls, 86.8% of them had fully recovered from the disease whereas Tympanostomy was suggested to 13.2% of cases.

Keywords //
Epithelial and recurrent dacyrocystitis are characteristic symptoms of lacrimal outflow obstruction. The therapeutic approach in children differs from that used in adults. There is a high rate of spontaneous relief of epithora caused by congenital nasolacrimal duct obstruction (CNLDO). The dacyrocystorhinostomy (DCR) is seldom needed in recurrent cases of a CNLDO, conjunctivocystorhinostomy (CDCR) is carried out in children with canalicular obstruction.

Methods
The operative and postoperative data have been collected in 1600 after intubations (1539 cases), DCRs (60 cases, aged 3 months to 13 years) and CDCRs (15 cases) between 1994-2012.

Results
The success rate was 95% in children with intubation. In children with DCR, the success rate was 53/60 (88.3%); in the group of postacacial obstruction 49/53 (92.5%), in the group of postacacial and suprasaccial obstruction 3/5 (60.0%); in the group of presacacial obstruction 1/2 (50.0%). After the CDCR, the full or partial functional success was found in 14 cases (93.3%). The total 37 complications were observed (malposition 25 times, the extrusion of the tube 8 times).

Conclusions
Endoscopic techniques may provide direct visualization and be useful in guiding secondary procedures after the failed probing. The endoscopic DCR is a safe and effective procedure the success rate comparable to that achieved in adults. The CDCR appears to be a reasonable procedure in children over 10-12 years old.

Keywords // lacrimal obstruction, dacyrocystorhinostomy, endoscopic approach, intubation, pediatric surgery, conjunctivocystorhinostomy

FPC09 // PEDIATRY // Paediatric ORL
Endoscopic treatment by laser CO2 of tardive supraglottic caustic lesion: case report and review of the literature
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Introduction: accidental caustics ingestion occurs mainly in the 2-3 year old age group. Up to 33% of patients develop long-term problems, principally oesophageal and gastric, rarely oral- pharyngeal and laryngeal strictures. Case report: we present a case-report of a 3 year old child with a supraglottic-pharyngeal synchiae secondary to caustics ingestion occurred one year before: the patient came to our attention dysphonic and with PEG because of absolute dysphagia. In this case the stricture was successfully treated by an endoscopic approach in MLSD laser CO2. Excellent results both in deglutition and phonation were obtained. The patient had instantaneous vocal improvement and restarted oral supply one day after surgery. Discussion: long term supraglottic injury is a rare complication of caustic ingestion, but is the most frequent when the larynx is involved. This is one of the few cases of a laryngo-pharyngeal strictures secondary to caustic injury treated by laser CO2 described in literature. We decided to present this case to emphasize the importance of the laser CO2 in the treatment of this type of complication.

Keywords // endoscopic approach, CO2 laser, caustic lesion

FPC11 // PEDIATRY // Paediatric ORL
Clinical Manifestations In Children With Tonsillar Lymphoma - Systematic Review
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Background: Lymphoma is the third most common childhood malignancy, accounting for about 12% of all cancers in people under 15 years and is the most
common malignancy in head and neck. The early diagnosis and treatment is of great importance in the prognosis of patients with Hodgkin’s tonsils. The goal of this work is to conduct a systematic review on the clinical manifestations present at diagnosis of tonsillar lymphoma (TL) in pediatric patients. Methods: A systematic review of the literature by searching the databases PubMed/MEDLINE, LilACoS, IBECS, Cochrane, SCIELO/Scopus/BIREME and articles from English, Spanish or Portuguese in the last 15 years on TL in children. We included articles covering the pediatric age group, up to 18 years old and contained information on the clinical manifestations of TL at diagnosis. Results: We found 87 articles of which 18 articles were included, there were 66 cases of TL. The most common clinical manifestations found in children with TL were asymmetry (72.7%), change in appearance of the tonsil (45.4%), cervical lymphadenopathy (30.3%), dysphagia (28.7 %) and Husky (24.2%). The presence of B symptoms occurred in only 16% of patients. Discussion and Conclusion: The most common clinical manifestations of TL is the asymmetry, change in the appearance of the mucosa and cervical lymphadenopathy. A detailed description of cases of TL and the use of criteria for classification of tonsillar asymmetry is important for future revisions.

Keywords // Lymphoma; Palatine Tonsil; Child

FPC12 // PEDIATRY // Paediatric ORL
A New Conservative Method for Treatment of Persistent Otitis Media with Effusion
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Objectives: To evaluate the efficacy and compliance of a new device, that produces a combined Valsalva-Politzer effect, for treatment of persistent otitis media with effusion (OME) in children.

Patients: Thirty one children with persistent otitis media with effusion for more than three months, from the hospital’s waiting list of operation with myringotomy with installation of grommets were divided into a treatment and a control group. Twenty-one children aged between 2-7 year were offered to participate in the group of intervention. Another ten patients, aged between 3-7 years from the same waiting list were included as controls.

Measurements: Otomicroscopy was performed weekly. Tympanometry was achieved at inclusion and at the end of the study passed 4 weeks in the treatment group and passed 6 weeks in the control group.

Results: Highly significant differences were seen in the mean middle ear pressure before and after follow-up or treatment in advantage for the treatment group (p<0.001). 88% of the ears in the treatment group revealed improvement in impedance audiometric findings with normalization in 52% of the ears. In the control group 35% of the ears had improved middle ear pressure with normalization in 15%. All children from the age of 2 years (20 months) managed to perform the treatment. No complications were registered.

Conclusion: The treatment revealed efficiency and should be considered as a first line of treatment in OME before surgery.

Keywords // Otitis media with effusion, autotylisation, Grommets, Valsalva, Politzer

FPC13 // PEDIATRY // Miscellaneous
A Review of a Paediatric Airway Clinic at a Tertiary Referral Centre
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University of Glasgow

Objective: In 2007 the Royal Hospital for Sick Children (RHSC) in Glasgow introduced a paediatric airway clinic where patients with symptoms are seen by the multidisciplinary airway team. The objective of this study was to (1) assess the number of monthly/annual referrals and how this impacted upon the prevalence of microlaryngobronchoscopy (MLB) and laryngotracheal reconstruction procedures (2) analyse the number of new referrals over an 8 month period for demographic and clinical data collection while providing a more detailed review for those patients with the clinical suspicion of laryngomalacia (LM).

Methods: A retrospective review of the multidisciplinary airway clinic since its introduction.

Results: Since the introduction of the Airway Clinic, 1954 patients were seen with a correlating escalation in MLB frequency. Over an 8 month period, the clinic received 126 new referrals, many presenting with the suspicion of LM. A majority of these patients, who were predominantly less than one year old, received a clinical diagnosis of LM which was attainable via the minimally invasive procedure of fiberoptic nasolaryngoscopy.

Conclusion: This airway clinic provides a specialist service delivering rapid assessment with the use of flexible nasendoscopy. Laryngomalacia was the most common diagnosis. The growing frequency of attendance highlights potential concern governing future workforce issues relating to clinic management.

Keywords // Paediatric Airway Clinic, Laryngomalacia

FPC14 // PEDIATRY // Paediatric ORL
Orbital complications in children - differential diagnosis of a challenging disease
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Background
Orbital complications (OC) usually arise from acute sinus disease and can cause severe complications, i.e. meningitis or vision loss. However, the differential diagnosis of orbital symptoms in children is often a diagnostic challenge.

Patients and Methods
Retrospective analysis of all children which were admitted in hospital during a 4 year period of 2009 through 2012 for a suspected orbital complication. Anamnestic data, the diagnostic and therapeutic management is discussed along with clinical follow-up.

Results
41 children (average age of 5.2 years, range 8 months through 14 years) could be analyzed. In 24 cases the right orbit was affected, in 14 cases the left eye, and in 3 patients both eyes. Finally 16 children had an orbital complication from an acute sinusitis. All had fever, high white blood cell counts and elevated CRP values. Six patients underwent sinus surgery. Streptococcus and staphylococcus were the predominant bacteria. In 25 cases, however, other diseases led to orbital symptoms, i.e. dentogen abscess, inflammation following insect stiches, dacrocystitis, or allergic eyelid swelling.

Conclusions
Orbital symptoms in children can be caused by several diseases, and only 39% are OCs due to an acute sinusitis. Careful and interdisciplinary diagnosis is mandatory, which can be challenging especially in small children. Consequent antibiotic and in some cases surgical therapy is required. With consequent therapy the prognosis is good.

Keywords // orbital complications; acute sinusitis; children; differential diagnosis

FPL01 // LARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Acoustic Radiation Force Impulse Imaging for Cervical Lymph Nodes
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 Ehime University

Objective/Hypothesis: Quantitative shear wave imaging with acoustic radiation force impulse (ARFI) is a new US-based modality for converting an invasive US system that can noninvasively provide numeric values of stiffness. We estimated the accuracy of ARFI imaging in the differentiation of reactive and malignant/metastasis cervical lymph nodes.

Study Design: Retrospective patients collected observational study.

Methods: Forty-two cervical lymph nodes (reactive, n=22; metastatic, n=20) from 19 patients (3 males, 6 females; mean age 63.68 Å± 14.9) were examined from September 2011 to March 2012. Patients referred for surgical resection (neck dissection or biopsy) were examined with ARFI imaging. Shear wave velocity (SWV (m/sec)) of each lymph node was evaluated via ARFI imaging.

Results: The SWV of reactive lymph nodes ranged from 0.95 m/s to 2.78 m/s, and had a median of 1.52 Å± 0.48 m/s. The metastatic/malignant lymph nodes were significantly more stiff, ranged from 1.4 m/s to 3.85 m/s, and had a median
2.46 Å± 0.75 m/s. SWV greater than 1.9 m/sec had high utility in metastatic LN classification, with 95.0% specificity, 81.8% sensitivity, and 88.0% overall accuracy. The areas under receiver operating characteristic (ROC) curves were 0.923 (95% confidence interval 0.842-1.000).

Conclusion: ARFI imaging had high accuracy (88.0%) in the differentiation of reactive and malignant/metastatic cervical lymph nodes.

Keywords // Head and Neck cancer, Shear Wave velocity, Lymph Node, Acoustic Radiation Force impulse Imaging

FPL02 // LARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Endoscopic surgery approach of fistula of pectoralis major myocutaneous flap by trichloroacetic acid chemocauterization: a case report
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(RESPONDENT CASE REPORT)

A pectoralis major myocutaneous flap (PMMF) is one of the standard tools for the reconstruction of defects of head and neck due to its reliability and versatility. In the literature the complication rate of PMMF vary from 13% to 63% among them the presence of PMMF fistula is about 15%. We present an endoscopic approach to treat PMMF fistula by trichloroacetic acid (TCA) chemocauterization.

Patient underwent partial endoscopic laryngectomy and then bilateral selective neck dissection with postoperative neck abscess: then he underwent total laryngectomy followed by placement of a PMMF to prevent postoperative complications. Two months later, the hypopharyngeal-esophagus tract investigation reveals the presence of pseudodiverticular extroversion in PMMF and patient underwent endoscopic cautery with TCA. Fistula was successfully repaired and patient restarted oral supply after seven days of enteral supply.

Salivary fistula is the most common complications after total laryngectomy and its incidence is about 20%: a PMMF may significantly reduce this incidence. Regarding flap-related complications, one of the most common is the presence of a fistula in the setting of preoperative infections. In some cases it heals spontaneously in other is required surgical closure by direct suture of the pharyngeal mucosa or using flaps. Also endoscopic approach with TCA chemocauterization seems to be a safe and applicable treatment in patient with PMMF fistula.

Keywords // endoscopic approach, trichloroacetic acid, fistula, pectoralis major myocutaneous flap.

FPL03 // LARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Management of Giant Retropharyngeal Lipoma & Review on its Surgical Management
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Lipoma is the commonest benign mesenchymal tumour but rare in retropharyngeal space. We report a young girl presenting to us with giant retropharyngeal lipoma which was extending from base of skull to T2 level with extension into para-pharyngeal space on both sides. Complete removal of Lipoma was done by Endoscopic assisted Lateral cervical neck approach. Our paper discusses in detail about surgical technique in management of retropharyngeal lipoma & review of literature on various important practical issues in managing retropharyngeal lipoma.

Keywords // Retropharyngeal lipoma, lipoma

FPL04 // LARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

The Two Week Wait for Suspected Head and Neck Cancer
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Heatherwood and Wexham Park NHS Trust

Introduction: In an attempt to improve cancer services in the UK the Department of Health declared that it would guarantee that anyone with suspected cancer could see a specialist within two weeks of being referred by their GP. In order to aid GPs in their decision to make a two-week wait referral NICE published ‘‘Referral guidelines for suspected cancer’. The two-week wait route has been shown to identify fewer early cancers when compared to other referral routes. Methods: We carried out a prospective observational analysis of 118 consecutive patients referred to our two-week wait head and neck outpatient clinic. The aim of this study was to assess the effectiveness of the GP two-week wait referral system for suspected head and neck cancer and the use of the NICE guidelines as a tool. We have analysed the predictive values of the referral symptoms and the risk factors. Results: The average age was 45 years and male to female ratio was 54: 64. Only 55.1% of referrals complied with the NICE guidelines. The overall cancer detection rate was 6.67%. The number of cancers diagnosed via the two-week wait was 7. During the same time period 33 cancers were diagnosed via other routes. Discussion: There was poor compliance with the NICE guidelines. The main reason for this was the referral symptom not being present in clinic. Using the positive predictive values of referral symptoms and risk factors we have produced a scoring system to further aid GPs with their two-week wait referrals.

Keywords // Two Week Wait, Head and Neck Cancer, Referral system

FPL05 // LARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Lateral cysts and fistulas of the neck - 20-year experience with long-term follow-up
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Lateral brachial cysts are a common finding in young patients, presenting with an anterolateral mass of the neck. In older patients, the diagnosis becomes more challenging because of the important differential diagnosis with squamous cell malignancy.

Methods: The charts of 439 patients with lateral brachial cysts or fistula operated on in the Department of Otorhinolaryngology, Erlangen between 1992 and 2012 were reviewed retrospectively. Epidemiological, clinical and histological data were analyzed. In 2/3 of the patients a long-term follow-up was completed. Patients with a cystic metastasis were excluded.

Result: Cysts and fistulas occurred in all ages. The mean age of presentation was 35 years (0-85). The gender distribution was 1:1. In all cases an ultrasound of the neck was performed prior to surgery. The transcervical excision of the cyst was done in all patients, An ipsilateral tonsillectomy in 2/3 of the patients. In 2% histologic findings were consistent with a lateral brachial cyst and a carcinoma.

Conclusion: We recommend that all patients with a lateral cervical cyst should have surgery to exclude a malignant transformation and to prevent recurrent infections. Complete surgical excision of the cyst and an ipsilateral tonsillectomy should be the treatment of choice. This treatment gives results with low rates of morbidity, mortality and recurrence. In addition to an otolaryngological examination, ultrasound should be routinely used for the preoperative evaluation.

Keywords // branchial cyst, branchioma, oropharynx neoplasms, squamous cell carcinoma, cystic metastasis

FPL06 // LARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Relationship of low-thermal-injury device and margin status to local recurrence in head and neck cancer
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First Clinic of Otolaryngology, Head and Neck Surgery

Background: Margins status affects disease-free survival regardless of tumor stage and site. This study is the first to examine in vivo model the effect of thermal-injury on margins status comparing traditional instrument with new devices.
Methods: We studied ten larynges excised from patients affected by laryngeal cancer. Excised larynges were used to assess the thermal-effect of incisions made at standard distance by using: scalpel, CO2 Laser, harmonic scalpel and electrocautery. Upon histopathological examination, thermal damage (Surgical Artifact, SA), tissue lost/retraction (Shrinkage, S), and tissue alterations were compared for each instrument. Based on this model, a re-evaluation of close and positive-margin cases for the true tumor margins was conducted on 129 historical laryngeal cancer patients treated with different devices.

Results: Compared to cold instrument, low-thermal-injury devices significantly (p<0.05) increased SA total mean value from 800.7 to 11447.85μm (72%), and S mean value from 2.226 to 2.910 mm (68.4%). In the retrospective analysis, traditional cold instrument in place of low-thermal-injury devices, would have resulted in 71.5% of the close margin samples being converted into true negative-margins, and in 28.5% converting from positive to true close-margins.

Conclusions: The choice of surgical device could influence the histopathological margins status, consequently affecting postoperative therapeutic strategies and risk of recurrence.

Keywords // surgical margins, low-thermal injury device, histopathological assessment

FPL07 // LARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Is it necessary to perform hemithyroidectomy as a part of total laryngectomy? A retrospective review.

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Background: Extensive laryngeal cancer surgery includes an ipsilateral thyroid lobectomy, however this approach is now debated with new evidence to suggest that the extent and indication for thyroid removal should depend on the position of the laryngeal tumour. This study reviews the histological incidence of thyroid disease (benign and malignant) in total laryngectomy.

Method: All patients who underwent total laryngectomy in UHW from December 2004 to May 2012 were included and their histology report reviewed for thyroid disease.

The CANISC database for laryngeal and thyroid cancer was reviewed between 01/01/2000-12/06/2012 to look for thyroid and laryngeal carcinoma in the same patient.

Results: 54 patients underwent a total laryngectomy. 50 histology reports were included in the study. 84% (42/50) had no histological evidence of disease. Direct extension of squamous cell carcinoma was seen in 6% (3/50). 4 patients had incidental finding of other thyroid pathology including papillary carcinoma. 136 laryngeal and 70 thyroid cancer patients were reviewed using the CANISC database with no evidence of both thyroid and laryngeal carcinoma in the same patient.

Conclusion: Although rare, direct extension of laryngeal carcinoma is seen in the thyroid gland. The anatomical position of the laryngeal tumour in these cases will be discussed in the presentation to assess the feasibility of selecting patients who require ipsilateral thyroid lobectomy as a part of total laryngectomy.

Keywords // Laryngectomy, thyroidectomy

FPL08 // LARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Prognostic outcomes in soft tissue head and neck soft tissue sarcoma: a ten year analysis

Laura Harrison, Mark Sayles, Tom McCulloch, Nigel Beasley, David G. Grant (United Kingdom)

Head and Neck

<psoft tissue sarcomas are rare mesenchymal tumours accounting for less than 1% of all malignancies. Of these, 5% occur in the head and neck. This study sets out to review all patients seen in our centre and identify factors affecting survival. A case series analysis of all head and neck sarcomas presenting between 2001 and 2012 was performed. Cutaneous spindle cell scalp lesions were excluded due to uncertain histogenesis. The FNC LCC grading system and TNM staging system was used. Univariate analysis was performed using a Wilcoxon test to identify risk factors influencing survival. Sixty-nine patients with head and neck sarcoma were treated at our institution, with a median age of 61.5 years. There were 43 males and 26 females. Sixty-six were primary sarcomas, and 3 recurrent lesions previously treated elsewhere. Mean tumour size was 32.9 mm, range (5.5 &ndash; 155mm). Sarcoma can present at any site in the head and neck. Our series identified 18 subtypes displaying low to high grade behaviour, with varying mortality. Nine of 69 presented with distant metastases. Fifty-seven were treated with curative intent, 18 patients died of their disease. Median follow up for survivors was 46 months. There was a significant association between advanced stage and shorter survival (p=0.002). Angiosarcoma was the commonest subtype, often presenting with metastases. Sarcoma has a variable prognosis by subtype. Early diagnosis and treatment of high grade head and neck sarcoma is essential.></p>

Keywords // Sarcoma, histological subtype, chemotheraphy, radiotherapy, survival

FPL09 // LARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Development of an enhanced recovery program for head and neck cancer patients from diagnosis to discharge: The first 2 years.

Richard Oakley, A Jenner, A Lyons, E Ofo, M McGr, J L Jeannon, R Simo, R Donnelly, M Lei, T GuerrioUrbano (Falkland Islands (Malvinas))
Guv’s and St Thomas’ NHS trust

Introduction: Enhanced recovery programs (ERP) improve outcomes and speed of recovery for patients undergoing major surgical procedures for benign disease. The Department of Health identified ERP as a strategic pillar in improving cancer outcomes. We describe adaptation of enhanced recovery concepts to diagnosis, treatment and surveillance of head and neck cancer (HNC) patients.

Method: Setting: Regional HNC network. Network members were invited to map the HNC patients journey from presentation to discharge. Interventions consistent with enhanced recovery principles considered and grouped into project plans. Early, intermediate and long-term objectives set within a five-year plan. Feasibility testing utilized: pilot studies, audit, quality and service improvement tools. Average length of stay (ALOS) established as the primary outcome measure for general impact. Median length of stay for specific care pathways.

Results: Ten project streams ranging from health promotion and perioperative care to post treatment surveillance identified. Early and intermediate objectives have been achieved. Directorate performance reports show a reduced ALOS from 4.55 to 3.85 days with an increase (546 to 685) in patients discharged per quarter over two years.

Conclusions: An ERP can be formulated around the HNC patient’s journey. Stratified introduction of interventions with simple early objectives may yield a positive impact on ERP outcomes while long-term project streams evolve and embed.

Keywords // Squamous Cell Carcinoma, Head and Neck, Enhanced recovery

FPL10 // LARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Prevalence of human papillomavirus in multiple synchronous or metachronous primary squamous cell carcinomas of the upper aerodigestive tract

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Introduction

Over the past two decades HPV infection has been a recognized risk factor in a subgroup of patients HNSCC. HPV is well established as a causative agent of multicentric neoplasms of the genital tract, but no reports have explored the role of HPV in synchronous or metachronous lesions of the head and neck. We aim to determine the prevalence and genotype distribution of HPV in both primary and second primary malignancies (SPM) of HNSCC within a 12-year period.

Methods

A retrospective study of patients diagnosed with SPM HNSCC between January 2000 and Jun 2012 was conducted. We performed p16INKA4a immunohistochemistry, DNA extraction and HPV genotyping on both primary and second primary tumours. Extracted DNA was tested for the presence of HPV using the generic GPs+/Gp6+ primer sets and housekeeping control gene Î2-actin. HPV genotyping of HPV positive cases was performed using the Linear Array HPV Genotyping Test (Roche Ltd).

Results
We identified 77 patients over 12 years. Our SPM prevalence rate was 10%. The male to female ratio is 8.2 with a mean age of 59. There were 31 patients with synchronous tumours and 46 patients with metachronous tumours. We examined 164 tumour specimens. We present the p16INK4a immunohistochemistry results, rate of HPV positive and negative patients and the specific HPV genotypes detected in both the primary and SPM.

Discussion
This is the first study to report comprehensively on the risk of SPM among HPV-positive and HPV-negative HNSCC.

Keywords // Human Papillomavirus, Synchronous, Metachronous, Squamous cell carcinoma

FPL11 // LARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Audit of transoral laser assisted microsurgical (TLM) resection of early laryngeal cancer
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NHS Lothian

The consensus statement from the ENT-UK Head and Neck group on TLM for early glottic cancer established the standards for patient selection, surgical care and follow-up. We audit our current practice of TLM for early glottic cancer against the standards outlined and assess the oncological outcome with regards to local and distant tumour control. A retrospective review of case notes of patients diagnosed with early glottic cancer, who underwent TLM as a primary curative treatment was performed. 39 patients who had TLM for early glottic cancer (Tis, T1a, T1b) from April 2009 to April 2011 were analysed. 89% of patients were discussed at the MDT prior to TLM. Complete circumferential excision was achieved in 95% of cases. 80% of specimens were mounted and orientated for histological analysis, and compiled with standard pathology reporting for margins. 8 cases did not have a ‘second look’ for various reasons. 7 cases had post-operative radiotherapy. 2-year local control rates for Tis, T1a and T1b were 80%, 81% and 33% respectively. Laryngectomy rate was 7.6%. The findings of this audit are encouraging and highlighted areas for further discussions, recommendations, training and education.

Keywords // Carbon dioxide laser, laryngeal cancer

FPL12 // LARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Professor James McCaul, J Cymerman, R Kulkarni, D Sutton, T Boye, K Abdel-Gall, R Shaw, S Hislop, A Mace, P Clarke, D Gouldsborough, H Mehanna, J McMahon, C Conkey, Prof. J Dunn [United Kingdom]
Bradford Institute for Health Research

Introduction:
Presence of dysplasia at resection margins after excision of squamous cell carcinoma (SCC) increases risk of disease failure. Dysplastic epithelium does not store glycogen and hence does not stain with Lugol’s Iodine (LI). This aids identification and excision of this tissue. LIHNCs assesses the effectiveness of LI to assist excision of moderate dysplasia, severe dysplasia and carcinoma in situ at mucosal resection margins of oral and oropharyngeal SCC. Results:
LIHNCs is powered to recruit 300 patients with 18 sites open and recruiting; and a further 11 sites in the setup stage. Total number of patients recruited is currently 228. We report cumulative and forecasted recruitment, recruitment by site per month and total recruitment by site. Discussion:
LIHNCs is on schedule to complete recruitment. We are very grateful to all of our collaborators in this study for their ongoing enthusiastic participation and support. Barriers to recruitment to trials have been identified. These have included LIHNCs specific and generic trial issues. Portfolio status has assisted us greatly in moving our research forward. This has allowed robust, on site support from CLRN funded research nurses. Our collective greatest achievement in this trial is the set-up of a network of Head and Neck Surgery centres which are Clinical Trial capable.

Keywords // LIHNCs, Head And Neck Cancer

FPL13 // LARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Surgical Strategy in Parapharyngeal Tumors - Remarks on a clinical case
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Institute of Phonoaudiology and Functional ENT Surgery “Prof. Dr. Dorin Hocita”

Abstract
Pleomorphic adenoma is a mixed tumor that contains both epithelial and mesoepithelial cells and mesenchymal stroma, the most common benign tumor of the salivary glands, more frequently occurring in the parotid gland.

The aim
An overview of parapharyngeal tumors located in the retrostylian space according to a clinical case report.

Method Clinical case report of a 44 years old woman with a pleomorphic adenoma of the deep parotid lobe with photo documentation, endoscopic and imagistic evidence.

Conclusions: The case report points out the particularities of a difficult approach of a tumor located in a small anatomic space rich in vascular and nervous elements of vital importance and the possible intraoperative complications due to the high surgical risk of the anatomical elements in the region.

Keywords // pleomorphic adenoma, deep lobe of the parotid gland

FPL14 // LARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Predictive factors and clinical evolution in head & neck lymphomas
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Coltea Clinical Hospital

Introduction: In clinical practice, the ENT specialist is very often the first who examine the patient with lymphoma because of the particular symptoms regarding ear, nose and throat involvement and the presence of neck lymphadenopathy. Diagnostic is sometimes tricky and always an excisional biopsy is necessary. The role of oncogenes and molecular markers involved in the appearance and evolution of lymphoma is now investigated worldwide. Material and Methods: We studied patients with non Hodgkin lymphoma of the head and neck treated from 2005 till 2011. After the surgical removal of the tumors, diagnosis of non Hodgkin lymphoma was established. Further pathology examinations were carry out in order to identify specific markers involved in the appearance of lymphoma and the potential relationship with clinical evolution, like oncogenes proteins bcl 2, bcl 6, ki 67. We correlate these markers with evolution, treatment response, relapse of disease. Results: bcl 2 was negative in some of the patients and positive in bigger number; Bcl 6 was positive in less cases compared with negative ones. Ki 67 was positive in majority of the cases and the value is directly related with the severity of disease. Conclusions: Bcl 2 is associated with a poor response to treatment, lower survival and increased death rate. Bcl 6 might be associated with a good prognosis. More research had to be done in order to conclude the potential role in the survival and response to treatment.

Keywords // head and neck lymphoma, bcl 2, bcl 6

FPL15 // LARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Early glottic cancer with anterior commissure involvement-our experiences based on 282 cases in supracricoid laryngectomy
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T2 glottic cancer consists heterogeneous group with anterior commissure involvement, supraglottic,subglottic extension, various tumor volume. All
patients had T2 glottic cancer with AC extension. Study design was to retrospectively analyze oncological, functional outcomes.

In 1989-2012, 282 patients with T2 glottic cancer were treated surgically by partial resective laryngectomy. The study was based on analysis of operative and pathological reports, medical charts and outpatient Dept. data. There were 256M and 26F. The mean age was 56.4 and 4 years. Patients were N- at first treatment. 282 procedures were performed. 161 glottic resections acc to Calearo, 89*CHEP, 7-ChP, and 23 glottic resection acc to Seldacek-Tucker. The mean time of follow up was 52 months. 272/282 were successfully exubated between 7th and 14th day. No distant metastases were found. 2nd primary tumors developed in 5 patients. Recurrence developed in 37 patients, 5 simultaneous local and neck relapses were found. All recurrences were observed from 2-35 months. Histopathologic examination showed positive surgical margins in 10282 patients, out of them, 3 local recurrence were found. 17 patients developed local recurrence despite clean margins. Local relapses were found in 20/282 patients. TL as a salvage treatment was performed in 18 patients; 2 patients were directed for XRT.3 and 5-year organ survival was 97,93% for the whole group. Delegation within norm.

Keywords // larynx cancer, partial laryngectomy

FPL16 // LARYNGOLOGY // Laryngology

Narrow-band imaging in the early detection of laryngeal cancer: a prospective study
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INTRODUCTION: to analyze the specificity and sensitivity of Narrow Band Imaging illumination technology in the early detection of laryngeal cancer in patients’ population without previous diagnosis of laryngeal cancer.

MATERIALS&METHODS: from October 2010 to January 2012 we performed a transnasal flexible fiber-video-recording endoscopy using NBI illumination technology in a prospective manner. Inclusion criteria were only patients from 18th to 80th years old, mainly with a declared tobacco and/or alcohol use. Exclusion criteria were previous laryngeal or Head and Neck cancer diagnosis or previous surgical, chemo- and/or radio- therapy for Head and Neck cancer. All NBI positive group patients underwent excisional biopsy. All NBI negative patients group underwent follow-up at minimum 6 months. RESULTS: we reported high sensitivity (92%) and specificity (70%) of the NBI illumination technology. Our results confirm the importance of NBI illumination technology as screening diagnostic tool in early detection of laryngeal cancer.

Keywords // NARROW BAND IMAGING, LARYNGEAL CANCER

FPL17 // LARYNGOLOGY // Laryngology

Laser Resection of the Oral Cavity and Oropharynx: A preliminary report
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Since the year 2000 there have been 80 laser resections performed on 76 patients for squamous cell carcinoma of the oral cavity and the oropharynx. The majority of the tumors were in the anterior tongue and most of them were of a T1 classification. The operating microscope was used at high power using a 2-millimeter diameter spot size in a continuous mode at 10 watts. Primary closure was used on the majority of patients and skin grafts were used on larger defects. If the patient had an NO neck, a selective neck dissection was performed and if there was palpable adenopathy the patient had a modified/radical to radical neck dissection. Postoperative radiation was prescribed dependent upon the nodal status. Multiple lymph nodes, extra capsular spread, perineural or vascular spread of tumor were all indications for postoperative irradiation therapy. The local control rate, the survival rate, complications and causes of death: to be described.

A recent update to include the patients operated upon as of January 2007 will be presented.

Keywords // laser resection oral cavity oropharynx

FPL18 // LARYNGOLOGY // Laryngology

High speed video of voice onset
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Weill Cornell Medical College

Phonation onset is important in the maintenance of healthy vocal production for speech and for singing. Recent studies of phonation onset using high-speed digital imaging are relatively few. The purpose of this study was to examine differences in vocal fold vibratory behavior at specific voice onset patterns seen in normal speakers and specific pathological conditions. The onset gestures compared were breathy, normal and hard onset, using high-speed digital imaging. Simultaneous capture of acoustical data confirmed the distinction among gestures. Image data were compared for glottal area configurations, degree of adductory positioning, number of pre-phonatory small-amplitude oscillations, and timing of onset gesture events. The results suggest a direct relationship between the degree of adductory positioning and the number of pre-phonatory oscillations.

Keywords // voice onset, high speed, video imaging

FPL19 // LARYNGOLOGY // Laryngology

How to medialize unilateral paralyzed vocal fold: The laryngologist plumb bob
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Introduction: The paralyzed vocal fold may be medialized by different methods, under local or general anesthesia. When it is performed under general anesthesia, determining the ideal position without listening to the patient’s voice is always a challenge. A new method has enabled to see the exact median position of the vocal fold.

Material and methods: Sixteen consecutive patients were submitted to vocal fold medialization under general anesthesia. In order to know how to reach the median position, we introduce a needle gauge 10 (intrach 10), through the neck, in the anterior commissure and set it vertically in the endotracheal tube.

This is the median line. It allows knowing exactly the amount of material we need to inject or to implant, until the vocal fold edge reaches the needle.

Results: There were neither bleeding nor other complications and very good quality of voice with glottal competence was attained.

Conclusions: This method showed to be feasible.

Keywords // Vocal fold paralysis, Larynx

FPL20 // LARYNGOLOGY // Laryngology

The effect of injection laryngoplasty in unilateral vocal cord paralysis fixed in more lateralized position than intermediate position
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Gachon University Gil Hospital

Introduction:
Patients with minor degrees of glottis insufficiency

Keywords // laryngoplasty, vocal cord paralysis

FPL21 // LARYNGOLOGY // Laryngology

ASSESSMENT OF MICRODEBRIDER AS A NEW TOOL IN THE MANAGEMENT OF OBSTRUCTIVE LARYNGEAL LESIONS
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Management options of obstructive laryngeal lesions have included urgent tracheotomy, emergency laryngectomy for malignant tumors, and microlaryngoscopic surgery. Options for microlaryngoscopic surgery include cautery, cold steel and CO2 laser.

The microdebrider is electrically powered instrument that combines suction and irrigation functions with an oscillating blade and has initially been applied for
endoscopic sinonasal surgery in otolaryngology. As a result of further technological developments, the angulation of the blade and the length of the microscrew have been modified for laryngeal and tracheal surgery. The aim of the study was to determine the efficacy of microdebrider as a tool in the management of obstructive laryngeal lesions. And to compare the histopathological diagnosis between a biopsy taken using the laryngeal forceps and the resected tissue from the microdebrider.

The study was conducted on thirty five patients, presenting with stridor due to variable obstructive laryngeal lesions.

In the present work, Intraoperative assessment of microdebrider included operative time, intraoperative bleeding and safety measures required. While postoperative assessment included degree of stridor to assess improvement, duration of improvement, postoperative pain. (Visual analogue scale VAS) and postoperative complications. Postoperative pathological assessment of resected tissues included histopathological diagnosis and difference in histopathology between 2 biopsies.

Keywords // microdebrider, obstructive laryngeal lesions, airway obstruction

FPL22 // LARYNGOLOGY // Laryngology

Stomal recurrence after total laryngectomy
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University Clinical Center Nis

AIM: Study the clinical findings of patients who underwent total laryngectomy and evaluate the probable risk factors to the development of stoma recurrence.

MATERIALS AND METHODS: In the period between 2000 and 2011 we performed 387 total laryngectomies for advanced squamous cell carcinoma of larynx in University ORL Hospital Nis, Serbia. Primary total laryngectomy (PRT) was applied in 316 patients, while in 38 patients initial radiotherapy (60°™70Gy), and in 33 patients chemotherapy (cisplatin-5 fluorouracil) with radiotherapy were introduced.

RESULTS: Recurrence of stomal recurrence was observed in 36 cases and the median time to recurrence was 9.1 months Age of the patients was under 50 years in 54.7%, while the rest were older than 50 years. Male patients were present in 84.2%. The most frequent tumor site was glottic with 49.1%, followed by supraglottic in 33.9%, and subglottic or transglottic localization in 17.0%.

CONCLUSION: Stomal recurrence following treatment for laryngeal cancer is often a grave clinical situation with a poor prognosis for prolonged survival. Postoperative radiotherapy to the stoma and superior mediastinum have led to decrease in appearance of stomal recurrence. According to our results we suggest follow-up for patients with laryngeal carcinoma who had subglottic involvement, paratracheal lymph node metastasis, or both to detect stomal recurrence at an early stage.

Keywords // total laryngectomy, stomal recurrence

FPL23 // LARYNGOLOGY // Laryngology

Differences of voice range profile measurements by using different commercially available software programs
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Medical University Vienna, Dept. of Otorhinolaryngology

VRP measurements have been widely used for evaluation of vocal performances and diagnostics of voice disorders. In the past, investigators have already stressed the comparison between physiological and musical VRP outcomes as well as sources of variation in VRP measurements. With increasing popularity of this method, several hard- and software device have been introduced into the market. Goal of this study is to evaluate the inter-device validity and reliability of commercially available VRP devices.

Therefore, simultaneously singing and speaking VRP measurements of 30 subjects (n=15 vocally healthy; n=15 with voice disorder) were performed using three different devices: lingWAVES, DIVAS and VidVoice.

The speaking voice measurements showed strong similarity concerning the F0 values for soft, medium and loud speaking; this was the same with SPL values. For shouting the F0 and SPL values were different. The maximum and minimum SPL values of singing voice showed diffuse variances, whereby the measurement of the sexes revealed even stronger differences.

In future, standards in VRP measurement (hard- and software) are needed to guarantee reliability and validity of voice measurements and to allow relevant comparison of therapeutic interventions in multicentre settings.

Keywords // Voice diagnostics, voice range profile measurements

FPL24 // LARYNGOLOGY // Laryngology

In-vitro evaluation of candida biofilm formation on Provox2, Phonax and Blom Singer Advantage voice prostheses
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Introduction: Candida biofilm infestation of voice prostheses leads to leakage and aspiration, which is of high risk of pneumonia in laryngectomized patients. Strategies to reduce biofilm formation comply development of resistant polymers and surface designs.

Goal of the in-vitro study was to evaluate long term biofilm formation on valve flaps of three recent voice prostheses.

Material and methods: The valve flaps of 6 Provox2, 6 Phonax and 6 Blom-Singer Advantage voice prostheses were incubated in-vitro in a two-species biofilm of Candida albicans and Streptococcus salivarius over 30 days and compared to a control group of 6 plates of medical grade silicon. Biofilm growth kinetics was assessed by macroscopic surface coverage of microbial deposits using the image analysis software Biofilm Cartograph.

Results: Differences in biofilm growth on the tested materials could be assessed; Phonax: heavy initial biofilm growth starting with 25-45% and further rise up to 85% of the total platelet surface, Provox2: initial

Keywords // voice rehabilitation, biofilm, candida, voice prosthesis

FPL25 // LARYNGOLOGY // Salivary glands

Clinical and oncological outcomes after surgical excision of parotid gland tumors in patients over 80 years
Badi ALDOSARI, Nicolas Fakhry, Justin Michel, Antoine Giovanni, Patrick Dessi (France)
Hôpital de la Timone

Objective: To evaluate surgical and long-term outcomes of a series of patients aged over 80 years, operated on for parotid neoplasms.

Methods: Among 614 parotidectomies for neoplasms performed from 1998 to 2008, 34 patients (5.5%) aged over 80 years were identified. Pathological examination showed a malignant tumor in 24 and benign tumor in 10 cases. Overall survival (OS) and disease-free survival (DFS) were determined by Kaplan™±Meier analysis.

Results: No postoperative death was observed. Eight patients (23.5%) had postoperative complications. The 2- and 5-year OS rates were 77% and 52%, respectively. The 2- and 5-year DFS rates were 71% and 44%, respectively.

Regarding predictors of postoperative complications, malignant histopathology (p=0.05) and radical resection (p=0.03) were found to have a statistically significant negative impact on postoperative course.

Regarding predictors of long-term outcomes, only the ASA score was found to have a statistically significant impact on OS (ASA vs. ASA 2, p=0.05). Malignant or benign histopathology had no impact on OS. Focusing on malignant tumors, only histopathological type (metastasis vs. primary tumor) was found to have a negative impact on OS. The 2- and 5-year OS rates were 86% and 86% for primary tumors and 67% and 29% for metastasis (p=0.05).

Conclusion: Our results showed good clinical and long-term oncological outcomes in very elderly patients operated on for parotid tumors, including malignant tumors.

Keywords // Surgery; cancer; age; elderly; salivary glands

FPL26 // LARYNGOLOGY // Thyroid and parathyroids
Is there survival benefit from life-long follow-up after treatment for differentiated thyroid cancer?

Dr. George Garas, George Garas, Ali Qureishi, Fausto Palazzo, Thanos Athanasiou, Emmanuel Zacharakis, Neil Tolley (United Kingdom)
Imperial College London

Background: The existing guidelines for follow-up in thyroid cancer recommend life-long follow-up as recurrence may present after 5 years. However, the strategy of life-long follow-up for everyone (as advised by the British, European and American Thyroid Association guidelines) is not evidence-based. The issue is that some of the recurrences may present after 5 years and low volume recurrence may be more effectively treated. However, there is no study that reliably shows a survival benefit conferred from life-long follow-up, especially in stage 1 disease. Moreover, the risk of recurrence only parallels the risk of disease-specific mortality in the older thyroid cancer patient group (>45 years at diagnosis).

Objective: To answer the question whether there is a survival benefit from life-long follow-up after treatment for thyroid cancer.

Methods: Systematic review using The Cochrane Controlled Trials Register, Medline and EMBASE databases from 1980 to 2012.

Results: The evidence from the present review supports a risk stratified approach to follow-up for thyroid cancer since low-risk thyroid cancer is associated with low recurrence rates and mortality compared to the other groups.

Conclusion: For young patients (<45 years at diagnosis) with stage 1 disease, there is no proven survival benefit from life-long follow-up following primary treatment. These patients could be safely discharged to primary care after 5 years for follow-up with yearly thyroglobulin measurements.

Is there survival benefit from life-long follow-up after treatment for differentiated thyroid cancer?

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Immunomodulatory effect of a decellularised scaffold for laryngeal tissue engineering

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University College London

Objectives: Stem-cell based techniques have previously been successfully used to replace patients’ tracheae, but using these same techniques to replace an entire larynx remains a challenge. Cancer, trauma and congenital causes, amongst others, may result in loss of a functioning larynx with devastating consequences.

Methods: Both in vitro and in vivo approaches were utilised using histological, immunohistochemical, molecular and cell culture techniques. Our hypothesis was that adequate decellularisation, with a corresponding reduction in Major Histocompatibility Complex (MHC) Classes I and II on donor antigen presenting cells, would mitigate the host cellular immune response towards the tissue. The model being utilised in this study is xenogenic transplantation from rabbit into rat.

Results: My research has shown that tissues can be modified in certain ways that reduce their potential for rejection following transplantation (i.e. they are non-immunogenic). This is critical in order to prevent rejection and to avoid the side-effects and complications associated with life-long immunosuppressants. In addition, non-immunogenic tissues may overcome some of the existing shortages in organ donors by providing off-the-shelf products available for transplantation.

Conclusions: We present new data demonstrating that decellularisation techniques may provide the optimal source for the generation of a fully-functional tissue-engineered larynx.

Keywords: Larynx; decellularisation; scaffold; laryngeal tissue engineering

FPL27 // LARYNGOLOGY // laryngology

decellularised ttt of laryngotraheal stenosis - Cairo experience

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kasr al aini school of medicine -cairo university - egypt

post intubation laryngotraheal stenosis is a problem of increasing magnitude in egypt. during the last decade there was an increase in number of intensive care units in egypt . more patients are admitted in icu with increase in use of artificial ventilators. the causes for occurrence of laryngotraheal stenosis is due to prolonged Duration of intubation,ETT size,Cuff pressure, Movement of the ETT and last but not least Infection.

Keywords: Evidence-based medicine; Thyroid; Cancer; Survival; Follow-up; Prognosis

FPL29 // LARYNGOLOGY // Thyroid and parathyroids

Lateral neck lymph node metastasis in patients with papillary thyroid carcinoma: predictive factors and long-term survival

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The rate of cervical lymph node metastases in patients with papillary thyroid carcinoma is high. Because there are no published prospective randomized studies, the clinical significance of metastatic involvement of the lateral neck compartment remains unclear. Although some authors report that lymph node metastasis is related to a higher risk of locoregional recurrence, without however adverse effects on long-term prognosis, recent studies suggest it may play a role in reducing survival.

Keywords: Larynx; Decellularisation; Scaffold; Laryngeal tissue engineering
The aim of the study is to identify any possible predictive factors of metastasis to the lateral neck compartment in patients with papillary thyroid carcinoma and clinically negative lymph nodes, and to investigate the influence of lateral neck compartment metastasis on survival. The authors retrospectively reviewed clinical records of patients surgically treated for papillary thyroid carcinoma at the Otolaryngology Unit of the Azienda Ospedaliera ASMN, Reggio Emilia, Italy, from March 1984 to December 2012. Out of 712 patients, 611 met inclusion criteria. Minimum follow-up was 48 months.

The authors present results of the analysis of this series in terms of rate and pattern of metastasis to the lateral neck compartment, presence of predictive factors of metastasis, and effects of lateral neck compartment metastasis on long-term prognosis in terms of disease-free survival and overall survival in patients with papillary thyroid carcinoma and clinically negative lymph nodes.

Keywords: // papillary thyroid carcinoma, metastasis, survival,

FPL30 // LARYNGOLOGY // Basic research
Effect of smoking habits on HPV status and SLPI (secretory leukocyte inhibitor) expression in head and neck cancer
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Recently, we demonstrated a correlation between SLPI regulation and HPV infection in HNSCC, suggesting that high levels of SLPI correlate with a protective effect against HPV. Thus, SLPI plays a pivotal role in the HPV infection process of mucosa cells. We showed that smoking induces SLPI expression hindering HPV infection. Here we collected biopsies from healthy mucosal and HNSCC tissue. Also, healthy mucosa was retrieved from patients without HNSCC; results were correlated with smoking habits.

DNA from fresh frozen biopsies (n=74) was used for PCR-based HPV detection and RNA was transcribed into cDNA for SLPI gene expression. SLPI gene expression in mucosal tissue of non-HNSCC patients was 8 times higher in smokers than in non-smokers. In mucosal tissue of HNSCC patients smoking resulted in a 15 fold increase in SLPI gene expression. The tumor tissues of patients with smoking habits showed 35 times higher SLPI expression. Biopsies of 6 patients were HPV positive, all tonsillar carcinomas (5 non-smokers). All of these patients showed significantly lower SLPI gene expression levels when compared to the averaged gene expression.

The data clearly show a correlation between smoking and SLPI expression supporting our hypothesis that SLPI expression and HPV infections are linked in HNSCCs. We speculate based on our previous data and the data presented here that smoking might be a crucial component up-regulating SLPI expression and consequently reducing HPV infections of HNSCCs.

Keywords: // HPV, HNSCC, SLPI, smoking

FPL31 // LARYNGOLOGY // Phoniatrics
The temporary effect of short–term endotracheal intubation on vocal function
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Vilnius University, Faculty of Medicine, Clinic of ENT and Eye Diseases, Vilnius, Lithuania, Vilnius University Hospital Santariskiu Klinikos, Center of ENT Diseases, Vilnius, Lithuania

The objective of the study was to assess and perceive the vocal and pharyngeal symptoms and acoustic changes of voice after short-term endotracheal intubation and to evaluate the relation between these changes and the endotracheal tube parameters, number of intubation attempts, duration of anaesthesia, experience of anaesthesiologist. A total of 108 patients were evaluated preoperatively, 1°°2 and 24 h after extubation. The vocal and pharyngeal symptoms, voice acoustic characteristics and maximum phonation time (MPT) were evaluated to find the relation with endotracheal tube parameters, number of intubation attempts, duration of anaesthesia, experience of anaesthesiologist. All vocal and pharyngeal symptoms increased significantly at 24 h and remained significantly increased at 24 h after general anaesthesia. The vocal acoustic parameters changed significantly at 1°°2 h: decrease of MPT and increase relative average perturbation were recorded. The day after the short-term intubation: only noise to harmony ratio and habitual pitch remains significantly changed. The most important endotracheal tube parameters that affect significantly (P value

Keywords: // Anaesthesia Endotracheal intubation, Voice acoustic characteristics, Pharyngeal symptoms

FPL32 // LARYNGOLOGY // Laryngology
Transoral laser resection of early vocal cord cancer, oncological and functional results
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Introduction: Authors report transoral CO2 laser cordectomy of T1, T2 glottic cancers between 1987-2010. demonstrating oncological results of the minimally invasive endoscopic method and evaluation of the quality of voice.

Material and methods: In 324 patients 375 laser cordectomies were performed, 289 patients - Tis (21), T1a (179), T1b (57), T2-3 (32) tumours - with more than 5 years follow up were analysed. Endoscopic aspects, onco-pathological and functional results of the transoral laser surgery are presented. Two years ago voice analysis (PRAAT program), voice handicap index questionnaire and telephone questionnaire interview after laser cordectomy are introduced: Results: There was no recurrence after a single laser cordectomy in 87.5% of the patients (253/289 patients). Laser-specific survival is 92.7% (268/289). 5 years survival is 92.2% (214/232). ‘Local recurrence’ was found in 36 of 289 patients (12.5%) and underwent salvage treatments. The voice quality depends on the extension of resection type of laser cordectomy. Voice analysis reveals worse quality of voice in IV, V types of laser cordectomy, but comparative pre- and postoperative results show similar or modestly worse values. or improved in I, II, III groups during the healing.

Conclusions: Transoral CO2 laser surgery of the early vocal cord proved to be a primary treatment option with acceptable oncological results and quality of voice.

Keywords: // vocal cord cancer, laser cordectomy, voice analysis

FPL33 // LARYNGOLOGY // Salivary glands
The ultrasound examination in assessment of parotid gland tumours: the novel graphic diagram. Lukasz Luczewski, Paweł Golusński, Jakub Pazdrowski, Piotr Pierkowski, Wojciech Golusinski (Poland)
Greater Poland Cancer Center

Ultrasound is one of the main diagnostic techniques for parotid gland tumours. It is inexpensive, non-invasive and widely available. However, interpretation of the images is highly subjective and constitutes a major limitation. To overcome this problem, we developed a graphic diagram to provide a standardised template that can be used for more precise identification of the tumour localisation within the parenchyma of the parotid gland. This new diagram may be used to provide surgeons with an improved and more objective localisation of the tumour. The study included 237 patients who underwent surgery for parotid tumours. To obtain the precise spatial location of the tumours, three topographic coordinates of tumour location in the coronal, sagittal and transversal plane were marked preoperatively during sonography within the parenchyma of the parotid gland. The localisation identified ultrasonically was then compared to the postsurgical report: 197 (83 %) tumours were found within the superficial lobe of the parotid gland and 40 (17 %) within the deep lobe of the parotid gland. In 157 (66 %) cases, tumours were found within the lower pole of the parotid gland, and in 64 (27 %) at the level of earlobe and its insertion, 16 (7 %) tumours were located at the level of the tragus and above it. Based on the results obtained, a graphic diagram of parotid gland tumour locations was developed.

Keywords: // Ultrasound, Parotid gland tumour

FPL34 // LARYNGOLOGY // Basic research
Dr
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University Hospital of Wales
Introduction: Securing the nasogastric tube (NGT) into place for feeding in head and neck surgical patients is key to ensure adequate caloric consumption and avoid the complications of tube re-siting. It has become commonplace for surgeons to suture the tube into the anterior septum at time of surgery to avoid dislodgement. The bridle system has good results at avoiding dislodgement in other settings, therefore could be used in head and neck surgical patients.

Methods: A sheep's head model of the nasal septum was used to represent the nasal cavity of post-operative patients. A fine bore Ryles NGT was passed within the nasal cavity and secured with either an anterior septal suture or the bridle system. A pulley system of weights were applied until the NGT slipped or snapped. Each weight and condition were investigated three times.

Results: Both the anterior suture and the bridle fixation techniques sustained a weight up to 4.5kg. At 5kg the suture allowed the NGT to slip and the tube began to become distorted. At 5.5kg the suture snapped the NGT. The bridle was able to sustain a weight up to 16kg: the point at which the NGT itself snapped.

Conclusion: Within this study the bridle was able to fix the NGT without slippage or damage at higher weights than the suture. It was also seen to protect the tube against distortion. The benefits of stronger fixation, with reduced tube damage using bridle systems, should be considered by surgeons when prolonged NGT feeding.

Keywords // Nasogastric tube, head and neck surgical patients, laryngectomy, bridle

FPL35 // LARYNGOLOGY // Thyroid and parathyroids

Trends In Parathyroidectomy In England And Wales Over The Last Decade. A Review Of Uptake And Demography Using A Linear Regression Model.
Louise Evans, David Owens, Michael Stechman (United Kingdom)
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Background: Consensus guidelines on the management of asymptomatic primary hyperparathyroidism have recommended a more liberal approach to parathyroidectomy. Also with the advent of minimally invasive techniques, experts now recommend intervention in the very elderly. This study examines if these factors have led to increased rates of parathyroidectomy over the last decade.

Methods: Analysis of Health Solutions Wales-PEDW and English Hospital Episode Statistics-HES data for admissions/100,000 population for parathyroidectomy (OPCS codes B14.1-B14.9) from 2000-2010. Statistical analysis was by linear regression.

Results: From 2000-2010 there were 24247 parathyroidectomies in England and Wales (0.005% of the population, female:male 3:1). Overall, incidence of parathyroidectomy rose from 3.2/100,000 population in 2000 to 5.7/100,000 in 2010 (P

Keywords // Incidence, primary hyperparathyroidism

FPL36 // LARYNGOLOGY // Swallowing

ENDOSCOPIC PHARYNGEAL POUCH STAPLING - A REVIEW OF OVER 300 CONSECUTIVE CASES IN OXFORD, UK
Dr J Bates, Winter S, Potter C, Bates G (United Kingdom)
Oxford University Hospitals

Aim: Pharyngeal diverticulum is a cause of cervical dysphagia. It predominantly affects patients over 50 years of age, with an estimated incidence of 1/100,000. This study reviews all endoscopic pharyngeal pouch stapling operations completed by the senior author of this study between 1992-2011.

Method: A retrospective review of all patients undergoing an endoscopic pharyngeal pouch stapling between 1992 and 2011. Data was collected including previous surgical intervention, co-morbidities, pouch size, complications, recurrence and outcome.

Results: 320 patients who underwent pharyngeal pouch stapling were identified. The age range was 46 - 96, average 88. At follow-up there was a subjective success rate of 88%, with a mean length of stay of 2.2 days. 14% of patients had recurrence of symptoms sufficient for repeat surgical intervention. There were seven cases of dental injury, one perforation and one post-operative hemorrhage, no deaths.

Conclusions: Pharyngeal pouch surgery is a controversial topic, with endoscopic pharyngeal pouch surgery recommended in the NICE guidelines in 2003. To date no single large retrospective study has been able to give an accurate recurrence rate for pouch stapling.

This review shows the technique has a recurrence rate of 14%, with a high success rate with low complication rate.

Keywords // Pharyngeal pouch, endoscopic stapling

FPL37 // LARYNGOLOGY // Laryngology

Neuroplasticity in patients with voice recovery after larynx surgery: a functional magnetic resonance imaging study
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Introduction: the larynx is essential for voice production: with a functional magnetic resonance imaging approach we aimed to locate a larynx area in the motor cortex, to distinguish it from the tongue and lip areas nearby and to assess cerebral areas activated during phonation. We then compared cerebral activation patterns between healthy subjects and patients who underwent larynx surgery. Finally we used diffusion-tensor MR imaging (DTI) to evaluate any possible alteration in neural connectivity, especially in the corticospinal tract (CST). Methods: we enrolled 8 healthy volunteers, 4 patients treated with partial laryngectomy and 5 with total laryngectomy. Patients were asked to perform a phonatory task and two tasks for voice articulation: Results: the larynx area is located in the motor strip, between the tongue and lip area. The motor cortex, supplementary motor area, cerebellum and basal ganglia, which are all essential structures involved in vocal control, were activated during the phonatory task. In laryngectomized patients the same task still induced activation of the motor cortex previously dedicated to intrinsic laryngeal muscles. We also noticed a modification in cerebral activation pattern, while articulatory tasks did not produce any change. Conclusions: DTI showed an increased trend in connectivity of CST after surgery. This finding could be secondary to speech rehabilitation for voice recovery and it could become an objective criteria of functional recovery.

Keywords // neuroplasticity, fMRI, laryngectomy

FPL38 // LARYNGOLOGY // Salivary glands

Management of Malignant Parotid Tumours: What can a 16 year retrospective tell us?
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Here we present a 16 year retrospective review of Parotid gland surgery by a single surgeon in Cape Town. We look at the data in relation to current controversies in the management of parotid masses and present a review of the literature.

Method: 16 years retrospective review of patients who underwent Parotid surgery from 1994 to 2004. Investigations, Pathology, Surgery and Recurrence rates

Results: 413 patients underwent parotid procedures. 53% for benign disease, 33% for malignant disease (15% primary parotid malignancies, 18% secondary malignant disease) and 14% for other reasons. Mean follow-up was 41 months. Overall survival was at 5 years was 72.3% with a 5 year local disease free rate of 88.1%. 112 FNAC results showed a accuracy rate of 87.5% whereas clinical assessment alone gave an accuracy rate of 84.4%. There was no difference in local recurrence rates when superficial or total parotidectomy was performed for malignant disease (91.3% vs 87.3%. p = 0.92)

Conclusion: FNAC is of no benefit in the clinically benign parotid mass. Undertaking a superficial parotidectomy in the absence of deep lobe involvement is sufficient in the management of parotid malignancy. Locoregional recurrence rates are in keeping with current published data. We also discuss the evidence for planned neck dissection and facial nerve preservation.

Keywords // FNAC, Malignant, Surgical Decisions, Parotidectomy
Complications after temporary mandibulotomy for surgical treatment of oropharyngeal cancer followed by radiotherapy

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Since 1992 a temporary mandibulotomy was carried out in 47 patients to gain adequate access for surgical treatment of oral or oropharyngeal cancer. 44 patients received radiotherapy perioperatively. The purpose of this retrospective study was to find a correlation between complications and surgical techniques used for temporary mandibulotomy. 39 patients were included. Osteotomies were performed either angulated or straight down in the midline. Osteosynthesis was done in various ways with anchor screws (these are modified lag screws with improved biomechanical qualities), in rare instances miniplates were added.

Radiotherapy started usually 4 weeks after surgery with a mean duration of 6 weeks and an average dose of 70 Gy, one patient had additional intraoperative radiation. Complications were chiefly seen in patients with straight osteotomy lines and osteosynthesis with less than 3 anchor screws and/or monocortical anchorage. 9 patients developed instability in the osteotomy line, and 5 of these ended up with radioosteonecrosis. All 9 patients were surgically explored and mandibles were stabilized with rigid plates.

In one patient a vascularized bone transfer was performed. No instability was found in 27 patients with an angulated osteotomy line and osteosynthesis with 3 bicortical anchor screws towards the inferior border of the mandible.

This technique, therefore, appears to be superior for temporary mandibulotomy and allows radiotherapy without any delay.

Keywords: temporary mandibulotomy, oropharyngeal cancer, lag screw, radiotherapy

Boron Neutron Capture Therapy (BNCT) in the Management of Recurrent Laryngeal Cancer

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Background: Salvage surgery is often the only feasible treatment option for laryngeal cancer (LC) recurring after (chemo)radiotherapy ([C]RT). New organ sparing treatment modalities are needed to preserve the functioning larynx. Boron neutron capture therapy (BNCT) is a novel form of radiation therapy specially targeting tumor cells with minor effects to healthy tissues. BNCT can be safely administered to previously irradiated patients. A prospective non-randomized Phase I/II trial of BNCT in locally recurrent head and neck cancer has been published with encouraging results (Kankaanranta, Int J Radiat Oncol Biol Phys 2012). The objective of this study was to evaluate the feasibility of BNCT as an organ sparing treatment modality for LC recurrence.

Patients: Nine patients received BNCT for recurrent LC. All patients had previous [C]RT. Two patients received BNCT for an inoperable recurrence. The other seven patients were considered to have a feasible surgical treatment option.

Results: All patients tolerated the treatment well. Initial complete response was achieved in four, partial response in one and the disease was stabilized in four patients. Three patients later underwent total laryngectomy. One patient is disease-free with a functioning larynx 36 months after treatment.

Conclusions: BNCT may add a non-surgical treatment option to the management of recurrent or inoperable LC. Although initial complete responses were observed, long-term laryngeal preservation was infrequent.

Keywords: BNCT, laryngeal cancer, larynx, cancer, recurrence, treatment

Complications after temporary mandibulotomy for surgical treatment of oropharyngeal cancer followed by radiotherapy

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Background

Treatment of laryngeal cancers, may include surgery, radiotherapy, chemotherapy, or a combination. Total laryngectomy (TL) has been the standard surgical treatment. Partial laryngectomy procedures were performed, their advantage over TL is preservation of laryngeal functions.

Aim of study

Objective and subjective voice analyze after reconstructive laryngectomy.

Methods.
The investigation was carried out on a group of 20 patients (3 female and 17 male), who underwent surgery according the techniques mentioned above. The methods of investigation were based on perceptual voice estimation (GRBAS), videolaryngostroboscopy, acoustic voice analysis, aerodynamic measure maximum phonation time, voice self-assessment (VHI).

Results and Conclusions

The perceptual voice estimation revealed a good phonation result in only 3 cases after using surgery with the Calearo method as well as the best results of MPT. The VHI reflected severe voice handicap in 2 patients (26 to 40 points). No statistically significant differences were observed between the values of the acoustic parameters in MDVP analysis after following operation “CHEP, Calearo, Sedlacek.

Keywords // voice, partial laryngectomy, voice function

FPM01 // MISCELLANEOUS // Snoring and obstructive sleep apnea

Multilevel radiofrequency ablation for snoring and OSAHS patients therapy: long-term outcomes

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Our objective is to evaluate the outcomes of the Radio-Frequency (RF) energy for tissue thermo-ablation therapy in sleep-disordered breathing patients and retrospective evaluation of the RF therapy after a 5-year followup period, in terms of snoring and apnea reduction. From June 1999 to June 2009, we enrolled patients suffering from simple snoring and patients with obstructive apnea hypopnoea syndrome (OSAHS). A visual analog scale (VAS) questionnaire was used to evaluate the level of snoring and was filled out in short- and long-term periods, 6 months before and after a minimum of 6 months from the last RF therapy treatment session. The presence of postoperative pain was assessed by means of a specific VAS. Results stated that 187/250 patients finished the RF therapy. In the simple snoring group, median snoring VAS decreased from 7.48 to 3.7 (P<0.001), in the post-operative snoring group, median snoring VAS decreased from 7.6 to 3.6 (P<0.001). In the mild-to-moderate grade OSAHS group, AHI decreased from a mean value of 18.1 to a mean value of 12.9 (P<0.001). Furthermore, we recorded a mean post-operative pain VAS of one in each group of patients. Our results suggest an important role of RF therapy in the improvement of snoring solution, but not for a significant AHI reduction.

Keywords // RADIOFREQUENCY ENERGY, MINI-INVASIVE SURGICAL TREATMENT, SNORING, OBSTRUCTIVE SLEEP APNEA SYNDROME

FPM02 // MISCELLANEOUS // Allergy

Disease Severity impairs sleep quality in allergic rhinitis (The SOMNNIA study)

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OBJECTIVE:

To evaluate sleep quality and daytime somnolence in allergic rhinitis (AR) patients. METHODS:

AR adult patients were evaluated through a prospective, observational, multicentre survey in Spain. Symptoms were assessed using the Total Symptoms Score (TSS), specific quality of life (QOL) by the Rhinitis Quality of Life Questionnaire (RQLQ), sleep quality by Pittsburgh scale, and diurnal somnolence by a scale based on Epworth’s, all recorded in a unique visit.

RESULTS:

A total of 2275 patients were included. According to ARIA criteria, 50.2% had persistent and 49.8% intermittent rhinitis, whereas 87.6% were classified as moderate-severe and 12.4% as mild; 52.8% had poor sleep quality, with a global median score for Pittsburgh scale of 6 (normal <5) and 21.1% suffered from excessive diurnal somnolence. Correlation between Pittsburgh scale and RQLQ was moderate (r = 0.54). Among symptoms, nasal obstruction and concomitant asthma mainly, contributed to bad sleep quality. In a logistic regression model, moderate-severe rhinitis and nasal obstruction were all associated with a worse sleep quality.

CONCLUSIONS:

Sleep quality is altered in AR patients. Sleep quality was worse in moderate-severe, and particularly in severe AR. Nasal obstruction and RQLQ deterioration are associated with a poorer sleep quality. Sleep impairment is common in allergic rhinitis, particularly in more severe forms.

Keywords // allergic rhinitis, ARIA, Pittsburgh Sleep Quality Index, quality of life, sleep disturbance, sleep initiation and maintenance disorders

FPM03 // MISCELLANEOUS // Salivary glands

Endoscopic assisted transoral removal for proximal submandibular stones

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OBJECTIVE:

Sialolithiasis is the most common non-neoplastic salivary gland disorder, accounting for 1.2% of the population. More than 80% of salivary stones are located in the submandibular duct. Endoscopic assisted transoral removal for proximal duct stones seems to be an equal minimvasive gland-preserving alternative.

PATIENTS AND METHOD:

The patients with proximal submandibular duct stones were included in the study. They underwent endoscopic assisted transoral removal of the stone under local anaesthesia. The postsurgical complications were observed and the recurrence of symptoms was considered as a treatment failure. These patients underwent sialadenectomy of the affected gland.

RESULTS:

The endoscopic assisted transoral removal of the proximal submandibular stones was performed in 20 patients. The postsurgical complication were described in 4 patients (soft tissue infection). The treatment failed in 5 patients overall (3 of them were presented with postsurgical complication too). The surgery under local anaesthesia wasn’t tolerated from 2 patients. In other 3 patient weren’t removed stones because to gross or fixed.

CONCLUSION:

Endoscopic assisted transoral removal of salivary gland stones under local anaesthesia is a method of choice in the management of proximal submandibular stones. This technique leads to a complete recovery of the glandular function contrary to the sialadenectomy. (This study was conducted with support of grant IGA MZ CR NR/1305S.)

Keywords // salivary gland stone, sialendoscopy, transoral removal

FPM04 // MISCELLANEOUS // Miscellaneous

Possible role of extraesophageal reflux in patients with difficult to manage chronic rhinosinusitis: first results

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Aim: Purpose of the study is to examine the severity of extraesophageal reflux (EER) in patient with various degrees of chronic rhinosinusitis (CR).

Methods: The presence and severity of EER was determined in three groups of patients with CR using RestechTM system. Group 1 consisted of patients with CR without nasal polyps, asthma bronchiale or ASA syndrome; group 2 consisted of patients with CR with nasal polyps, without asthma bronchiale or ASA syndrome; group 3 consisted of patients with CR with nasal polyps and asthma bronchiale and/or ASA syndrome. The number of EER episodes, time below pH 5.5 and RYAN score was evaluated to determine the severity of EER.

Demographic data, Reflux Symptom Index and history of endoscopic endonasal surgery were ascertained.

Results: Eighteen patients (six in each group) were recruited for the study from June to December 2012. Overall EER diagnosed using RestechTM system was more frequently detected in group of patients with CR and simultaneous nasal polyps and asthma bronchiale in comparison with two other groups (RYAN score positive five times vs. two times and one time).

Conclusions: Our first results show the possible role of EER in more serious types of CR. In case our hypothesis is confirmed and statistically proved, antireflux therapy would be another option of treatment of patients with CR, especially
those with a difficult to manage nasal polyps and asthmatic bronchiola. Study is supported by Grant IGA NT13500-4/2012.

Keywords // chronic rhinosinusitis, extranasopharyngeal reflux, RestechTM system, antireflux therapy

FPM05 // MISCELLANEOUS // Salivary glands
Sialography and sialendoscopy in diagnostics of benign salivary obstruction
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INTRODUCTION Benign obstruction disease of salivary gland (SG) ducts is the most common SG disorder. Its diagnostics is based on the patient history and the results of clinical examination, ultrasound and sialendoscopy. The x-ray sialography is currently less commonly used procedure. The aim of the present study was to compare usefulness of sialendoscopy and sialography in the detection of benign salivary obstruction.

METHODS Patients with recurrent SG swelling were included in our study. As a first step, sialography was performed and patients were sorted out into three groups (sialolithiasis, duct stenosis, no pathology). Subsequently, sialendoscopy was performed. The results of two methods were compared.

RESULTS Twenty-three patients with benign obstruction disease were included in our study. Using sialography, stenosis, lithiasi is and no pathology was detected in 4, 12 and 7 patients, respectively. Using sialendoscopy stenosis, sialolithiasis and no pathology was proved in 5, 13 and 5 patients, respectively. In 17 of 23 patients (74%) sialendoscopic finding was in accordance with sialography imaging. Sensitivity of conventional sialography in detection stenosis was only 60%, sialolithiasis was showed in 85% cases.

CONCLUSION Sialendoscopy is more sensitive than sialography in the detection of the SG duct obstruction pathologies. Especially in diagnostics of duct stenosis sialendoscopy is more effective method.

This study was supported by grant IGA MZ CR NT/13505.

Keywords // Benign salivary obstruction, sialography, sialendoscopy

FPM06 // MISCELLANEOUS // Allergy
Topical corticosteroids do not restore a “healthy” blood eosinophil phenotype in patients with eosinophilic esophagitis
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Background: Eosinophilic esophagitis (EoE) is an allergic disorder in which eosinophilic granulocytes invade the esophagus. Patients typically suffer from dysphagia and food bolus impaction. Swallowed corticosteroids are the standard therapy. Eosinophils in the circulation of untreated patients display a particular pattern of surface molecules. The objectives of this study were to examine if topical corticosteroid therapy restores the phenotype of eosinophils to a healthy phenotype.

Methods: Blood eosinophils from adult EoE patients before (n=13) and following a 2-month course of topical corticosteroids (n=7) were investigated, and compared to healthy controls (n=10). Eosinophilic surface molecule expression was determined by 4-color flow cytometry. Data was processed by multivariate pattern recognition methods to reveal specific patterns.

Results: Eosinophils from all EoE patients, independent of treatment, had decreased expression of CD4 and CCR3, and enhanced expression of CD23, CD40 and CD54 relative to control persons. Corticosteroids decreased the expression of CD18 on eosinophils, but did not otherwise alter the phenotype of blood eosinophils in EoE patients.

Conclusion: Topical corticosteroids did not reverse the phenotype of blood eosinophils to a healthy profile. The diminished expression of CD18 on blood eosinophils may explain the reduced entry of eosinophils into the esophagus following corticosteroid treatment of EoE patients.

Keywords // eosinophilic esophagitis, allergy, dysphagia, treatment, flow cytometry

FPM07 // MISCELLANEOUS // Snoring and obstructive sleep apnea
CAUTERY ASSISTED PALATAL STIFFENING OPERATION
Hazem Mohamed DEWEDAR, Hazem Mohamed DEWEDAR (Egypt)

Snoring occurs due to vibration of tissues in the vicinity of the oropharyngeal airway. Palatal vibration represents a major cause of snoring. UPPP and Laser-Assisted Uvulopalatoplasty (LAUP) represent the classical surgical procedures for treatment of snoring. Recently, minimally invasive procedures have gained popularity.

The present study comprised 50 patients complaining from snoring due to palatal flutter without any apnea episodes. All patients were subjected to a preoperative and a postoperative assessment protocol that included: history taking, snoring questionnaire, clinical examination, anterior rhinomanometry, visual analogue score for snoring and postoperative pain, flexible nasolaryngoscopy and polysomnography. The patients were divided into 2 groups according to the surgical procedure performed. Group A included 25 patients who had CAPSO performed. Group B included 25 patients who had LAUP performed.

The results of the present study indicated that CAPSO is a simple and safe mucosal surgery that induces midline palatal fibrosis thus stiffening the floppy soft palate. CAPSO is an effective procedure in treating palatal snoring with success rate comparable to LAUP. Our results indicated that CAPSO is associated with fewer incidences of postoperative complications. Moreover, postoperative pain after CAPSO is lower than that felt after LAUP.

CAPSO is a cost-effective procedure that uses electrocautery and does not depend on expensive equipment.

Keywords // Snoring, palatal stiffening, C Capso, Cautery, Sleep Apnea

FPM08 // MISCELLANEOUS // Other
Gastroesophageal reflux disease: breakthroughs in oropharyngeal pH monitoring (Restech)
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OBJECTIVES: Typical GERD manifestations are heartburn and regurgitation; however, GERD may also present atypically with cough, asthma, and reflux-induced laryngitis. Current methods of measuring pharyngeal pH are problematic. The aim of the study was to correlate symptoms, endoscopic findings, and oropharyngeal pH monitoring (Restech) results; in particular, the ability of Restech in predicting response to proton pump inhibitor (PPI) therapy is assessed.

METHODS: Twenty-two patients with chronic laryngeal symptoms were enrolled. Reflux symptom index, fibrolaryngoscopy, and 24-hour oropharyngeal pH monitoring were performed. All patients were administered 3-month therapy with pantoprazole 40mg BID, after which both reflux symptom index and fibrolaryngoscopic evaluation were repeated.

RESULTS: Thirteen of the 22 patients responded to therapy. Laryngoscopic findings did not correlate with the clinical improvement after 3 months of PPI therapy. Nine patients had a pathologic Restech result, and all were responsive to PPI; nine patients with a negative Restech result and were nonresponsive to PPI. Considering responsiveness to medical therapy as the gold standard of laryngohypopharyngeal reflux (LPR) for the diagnosis of LPR, Restech showed a sensitivity of 69% and a specificity of 100%.

CONCLUSIONS: The high specificity and reasonable sensitivity of Restech make it an interesting tool to consider before therapy of patients with laryngohypopharyngeal reflux.

Keywords // Gastroesophageal reflux disease, Oropharyngeal pH monitoring

FPM09 // MISCELLANEOUS // Snoring and obstructive sleep apnea
FUNCTIONAL EXPANSION PHARYNGOPLASTY (FEP) AS ISOLATED TREATMENT OF OSAHS: SURGICAL TECHNIQUE AND RESULTS
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INTRODUCTION: Multilevel obstruction of the upper airway due to the lateral pharyngeal wall collapse is usual in OSAHs patients. This fact often cause the failure of the “classical” oropharynx surgical treatment

Keywords // Snoring, palatal stiffening, C Capso, Cautery, Sleep Apnea
MATERIAL AND METHODS: From December 2009 to February 2013 25 patients suffering from moderate/severe OSAS underwent to this surgery, previously selected by DISE features. The procedure consists in a bilateral supero-laterally rotation of palatopharyngeus muscle flaps and suture on to soft palate musculature to create lateral wall tension and remove the bulk of lateral pharyngeal wall without exterior anatomy changing of the soft palate and uvula. The median preoperative AHI was 36.1/h, the median ODI was 31.9/h, the main age was 42.7. The preoperative evaluation with videolaryngoscopy detected a complete lateral oropharyngeal walls collapse, without hypopharyngeal obstruction.

RESULTS: The polysomnography control was made 3 months after surgery. The median postoperative AHI was 7.6/h, the median ODI was 6.7/h. Selecting a threshold of AHI index less than 15 without comorbidity, or AHI <5 with comorbidity, success rate was 76%. No dysphagia, or swallowing problems was referred. Only 3 cases of hemorrhage was reported.

CONCLUSION: We conclude that FEP is a safe surgical procedure in selected patients, characterized by lateral pharyngeal wall collapse detected by DISE. Our technique shown a promising success rate in decreasing AHI and diurnal symptoms.

Keywords: Pharyngoplasty, DISE

FPD01 // OTOLARYNGOLOGY // Otolaryngology and facial nerve

Functional Correlations in tympanic membrane perforations: Size Matters?

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Objective: The correlation between tympanic membrane perforations and hearing loss was studied.

Study design: Prospective data from 220 patients, who underwent primary surgery for simple chronic otitis media with a perforated eardrum, were analyzed.

Patients: 151 patients with 155 eardrum perforations, which were checked for correct diagnosis, normal middle-ear status and integrity of the ossicular chain, were included.

Main outcome measurements: Preoperative conductive hearing loss due to eardrum perforations.

Results: Hearing loss shows a linear relationship to increasing eardrum perforation size. Implantation shows a worsening of the hearing by 5-6 dB (p

Keywords: Tympanic membrane perforation

FPD02 // OTOLARYNGOLOGY // Cochlear and middle ear implants

Novel implantable auditory prosthesis utilizing piezoelectric materials and von Bekesy’s travelling wave theory

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The travelling wave theory proposed by von Bekesy was validated using cochlea from cadavers, indicating that even after complete loss of hair-cell function, the mechanical tonotopy for sound frequency remains within the cochlea. Although progress in cochlear implants has been remarkable, to our knowledge, implantable auditory devices have not yet utilized mechanical cochlear tonotopy for sound frequency. We then aimed to develop an implantable auditory device utilizing von Bekesy’s travelling wave theory. For this purpose, piezoelectric materials were utilized. First, we generated a prototype piezoelectric device, which is not life-size, and confirmed generation of electricity in response to sound application in vitro. Based on this, life-sized piezoelectric devices were fabricated. Then, the vibration of piezoelectric membrane implanted in guinea pig cochlea in response to sound stimuli was measured using a laser Doppler vibrometer in vivo. Sound application through an external auditory canal induced vibration in a piezoelectric membrane implanted in a guinea pig cochlea. Then, the electrical output from life-sized devices after implantation was tested in an ex vivo system using guinea pig temporal bones. As results, life-sized piezoelectric device generated electrical outputs in response to sound application. In conclusion, a piezoelectric membrane can mimic the function of the basilar membrane and inner hair cells.

Keywords: Cochlear implant; hearing loss; mechanoelectrical transduction; piezoelectric membrane; travelling wave

FPD11 // OTOLARYNGOLOGY // Otolaryngology and facial nerve

Mad simulator during drug induced sleep endoscopy in osas patients: our experience and comparison with esmarch manoeuvre

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INTRODUCTION Understanding the sites of upper airway collapse and its pattern is mandatory for non ventilatory treatment decision-making and its efficacy in OSAS patients. The results and clinical outcomes of OSAS patients treated with mandibular advancement device (MAD) can not be adequately predicted using awake parameters. OBJECTIVE: The aim of the study is to analyze the changes in pharyngeal airway size both performing DISE with George Gauge bite fork and without it, before the MAD application. METHODS: After an accurate orthodontic assessment and the bite fork registration, MAD simulator was inserted in 30 awake patients before performing DISE. A standard DISE was carried out in all patients using TCI propofol sedation. After registration of parameters with MAD during adequate sedation, the bite fork was removed and a basal DISE parameters were recorded. RESULTS: Preliminary results showed that the pattern of obstruction and snoring can change in different ways performing DISE with a MAD simulator or with Esmarch manoeuvre, with an increase of retrolingual space due to the anterior repositioning of the tongue base and a stabilization of the lateral walls of hypo-velopharynx. CONCLUSION: Performing DISE with George Gauge bite fork gives the advantage to investigate the effectiveness of a repeatable protrusion and vertical opening of the mandible.

Keywords: DISE
Age-Dependent Cost-Utility of Pediatric Cochlear Implantation
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Objective: Little data are available on the long-term societal benefits of pediatric cochlear implantation (CI) across various ages of implantation—a variable with high prognostic value for clinical outcome. This study proposes a model for the timing of CI from a societal and economic perspective.

Design: Prospective, longitudinal assessment of health-utility, cost of care, and classroom placement outcomes in 175 children recruited from 6 US centers, undergoing CI before 5 years of age with 6 years of post-CI follow-up.

Results: Children implanted at 36 months of age, respectively. Complication rates were not significantly different between the 3 groups. Mainstream classroom integration rate was significantly higher in the youngest group at 81% as compared to 57% and 63% for the middle and oldest groups, respectively. (p

Keywords // cost utility, comparative effectiveness, pediatric cochlear implants, age at implantation, classroom placement, health-related quality of life, post-operative complications, CI/Ci

FPO04 // OTOTOLOGY // Otology and facial nerve
Bone marrow stem cells in the facial nerve regeneration from isolated stumps
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Introduction: Severe lesions in the facial nerve may have extensive neurotrophic loss leaving isolated stumps that impose technical difficulties for nerve grafting.

Methods: We evaluated bone marrow stem cells (BMSC) in silicone conduit for rat facial nerve regeneration from isolated stumps. Group A had empty silicone tubulization; in groups B-D the tube was filled with acellular gel; and groups C and D had additionally undifferentiated BMSC (uBMSC) or Schwann-like cell differentiated from BMSC (dBMSC), respectively. Compound muscle action potentials (CMAP) were measured and histology evaluated.

Results: Groups C and D had the highest CMAP amplitudes values. Group C had shorter CMAP duration than groups A, B and D. Distal axonal number and density were increased in group C compared to groups A and B. Conclusions: The regeneration of the facial nerve was improved by both uBMSC and dBMSC in rats, yet uBMSC was associated with superior functional results.

Keywords // Facial Nerve; Stem cells; Nerve Regeneration; Schwann cells; Electromyography; Neural Conduction.

FPO05 // OTOTOLOGY // Basic research
A study of antibacterial and antifungal properties of wet cerumen
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Objective: To investigate the effect of human cerumen on the growth of Staphylococcus aureus, Escherichia coli, Pseudomonas aeruginosa and Candida albicans.

Material and Methods: A prospective study was conducted on cerumen samples collected from 120 healthy cases. Sterile samples were taken and further tested. The bacterial strains were cultured on nutrient agar, and Candida was grown on SDA. Serial 10 fold dilutions of the test organisms were made using normal saline acting as control and using 3.5% cerumen suspension as test and were incubated at 37°C for 12 hours. Subcultures were performed from test as well as control tubes to assess the inhibitory activity of human cerumen.

Results: At dilutions of 1 in 103 there was complete inhibition of Escherichia coli and Pseudomonas aeruginosa in all samples, complete inhibition of Staphylococcus aureus in 83.3% samples and Candida albicans in 80% samples. The order of inhibition demonstrated by cerumen in the present study was Escherichia coli>Pseudomonas aeruginosa>Staphylococcus aureus>Candida albicans.

Conclusion: Wet human cerumen has antibacterial and antifungal properties against the commonest bacterial and fungal pathogens. Other than the physical barrier, wax acts as protective coating over the external auditory canal. Hence, routine wax removal/ear cleaning is not mandatory unless impacted wax is leading to earache or conductive hearing loss.

Keywords // cerumen, antifungal, antibacterial

FPO06 // OTOTOLOGY // Neuro-Otology and vestibular system
THE USE OF INTRATYMPANIC GENTAMICIN IN PATIENTS WITH VESTIBULAR SCHWANNOMA AND DISABLING VERTIGO.
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Objective: to document the effect of intratympanic gentamicin as treatment of disabling vertigo secondary to a vestibular schwannoma in elderly patients.

Patients: four elderly patients with a vestibular schwannoma, with an extrameatal diameter of less than 1 cm, suffering from disabling vertigo and followed a wait and scan policy.

Intervention: intratympanic injection of gentamicin
Main Outcome measures: subjective improvement of quality of life, audiologic and vestibular assessment.

Results: we obtained a subjective improvement in the quality of life for all the 4 patients. In fact, disabling vertigo disappeared in all cases; 3 patients recovered their post-treatment unsteadiness after a period of vestibular rehabilitation, while 1 of them complained of persistent unsteadiness. The hearing remained unchanged in 3 patients, while in 1 the pre-treatment severe sensorineural hearing loss progressed to anacusis.

Conclusion: this treatment represents an additional option in patients with small not-growing tumor affected by vestibular symptoms to be combined with a wait and scan policy.

Keywords // Vestibular neurinoma, vertigo, dizziness

FPO07 // OTOTOLOGY // Other
Current status on virtual simulation training in temporal bone surgery and the Visible Ear Simulator experience
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Temporal bone dissection is one of the key skills for the otolaryngology resident in training and has traditionally been taught by cadaveric dissection. The virtual surgical simulators can provide a risk-free setting in which surgical skills can be learned, and repeated self-directed training on the simulator allows the trainee to improve and perfect these skills before proceeding to the OR. In the future virtual surgical simulators might be used as an objective structured tool in assessing the progress and performances of surgeons in training. If virtual surgical simulation is to be routinely implemented in resident programs the surgical simulators must be established as evidence-based learning tools by research on their validity and reliability.

At present a variety of temporal bone surgical simulators based on different platforms and technologies exist. The Visible Ear Simulator (VES) is one of these; it’s a freeware virtual temporal bone simulator using a voxel-model based on high-resolution digital photos of a fresh-frozen human temporal bone with interactive haptic device input and an integrated tutorial function for self-directed learning.

We have reviewed the current literature on virtual simulation training in temporal bone surgery and found only few studies that have tested and evaluated different aspects of validity of the temporal bone simulators. We will present the current evidence-base as well as our own experience with the VES-simulator.

Keywords // virtual surgical simulation, temporal bone surgery, temporal bone dissection, otology, medical education, evidence-based learning, self-directed learning, surgical skill assessment

FPO08 // OTOTOLOGY // Oto-neurosurgery and lateral skull base
Inflammatory pseudotumor of the endolymphatic sac: a case report
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National University Of Singapore

The authors present a case of Endolymphatic Sac Inflammatory Pseudotumour the treated at our institution. It is a benign lesion which arises due to chronic inflammation. It has similar clinical and radiological features as endolymphatic sac tumors and is diagnosed through histopathological examination. To date, there have been over 200 case reports of ELSTs but only 2 case reports of endolymphatic sac pseudotumour.

Endolymphatic sac inflammatory pseudotumours may be a subset of inflammatory pseudotumours- non-neoplastic inflammatory lesions which occurs largely in the lung and orbit, but has been described in various regions of the thorax, abdomen, retroperitoneum, central nervous system and head & neck. To date, 21 cases occurring in the temporal bone have been reported.

This report highlights the clinical presentation, radiological features, histological characteristics, treatment, and clinical outcomes of endolymphatic sac inflammatory pseudotumours and explores their likely etiology and discusses possible treatment options.

Keywords: endolymphatic pseudotumour, temporal bone inflammatory pseudotumour, endolymphatic sac tumour, inflammatory pseudotumor

FP009 // OTOTOLOGY // Miscellaneous

Diagnostic utility of magnetic resonance imaging and magnetic resonance angiography in the radiological evaluation of pulsatile tinnitus.
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Aim: to assess the diagnostic utility of magnetic resonance imaging with complimentary magnetic resonance angiography (MRI/MRA) in the radiological evaluation of patients with pulsatile tinnitus (PT). Materials and Methods: 27 patients with pulsatile tinnitus were evaluated by Magnetic resonance imaging (MRI) with complimentary magnetic resonance angiography (MRA), 9/27 (33.3%) patients were investigated by CT, and 12/27 (44.4%) were evaluated by angiography. All patient’s clinical investigation was reviewed to discard systemic causes of PT.

Results: MRI/MRA detected the underlying etiology of subjective pulsatile tinnitus (PT) in 11/27 (40.7%), and 16/27 patients (59.5%) showed normal MRI/MRA examination. The most common cause was dural arteriovenous malformation (AVM) in 4/27 (14.8%) patients, high jugular bulbus in 2/27 (7.4%), aneurysm of internal carotid artery in 1/27 (3.7%), aberrant internal carotid artery in 1/27 (3.7%), vertebral artery hypoplasia in 2/27 (7.4%), and glomus tumor in 1/27 (3.7%). The statistical results of the present study showed that MRI/MRA were: 80% sensitivity, 88% specificity, 86% accuracy, 85% PPV, 83% NPV, and 15% error percentage for diagnosis of PT.

Conclusion: MRI/MRA was an effective radiological imaging methods in detecting the underlying pathology of pulsatile tinnitus. Magnetic resonance may be considered a first line diagnostic imaging modality in the assessment of subjective pulsatile tinnitus.

Keywords: Magnetic resonance imaging, magnetic resonance angiography, pulsatile tinnitus

FP010 // OTOTOLOGY // Audiology

Speech understanding with the Baha BP110 Power and Intenso Sound Processors
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University of Bern

With the BP110 Power and the somewhat older Baha Intenso, two different head-level high-power Baha sound processors are available. We compared speech understanding with the two processors. 20 experienced Baha users with conductive or mixed hearing loss participated in three test sessions. In a first session, half of the participants were fitted with a Baha BP110 Power, the other half with a Baha Intenso. After one month of use, aided speech understanding in quiet and in noise was measured, and the other of the two test processors was fitted. One month later, speech understanding with the second sound processor was assessed. For both processors, speech understanding was measured in quiet and in noise, with noise arriving either from the front or from the rear.

Significant improvements were found for both devices for speech understanding in quiet at 50 to 80 dB (+9.6 to +34.8 % points; p=0.02 to 0.001) and in noise (+6.2 to +13.8 dB, p

Keywords: Baha, BP110, Baha Intenso, Speech in noise

FP011 // OTOTOLOGY // Otoneurosurgery and lateral skull base

Carcinoma of temporal bone : treatment and results
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The recommended therapeutic strategy for carcinoma extended to the middle ear consists of surgical excision and postoperative radiotherapy. Aim of this study was to evaluate outcomes and complications of combined surgery and radiotherapy for locally advanced temporal bone carcinoma. 34 patients affected by squamous cell carcinoma, basal cell carcinoma, adenocystic cell carcinoma, Menkel carcinoma, carcinoid were treated from 2002 to 2011.

According to the University of Pittsburgh staging system 6 patients were stage II, 16 patients were stage III and 12 patients were stage IV. All patients underwent lateral temporal bone resection and pedicle flap reconstruction. 13 patients received intra-operative (12 Gy IORT) and post-operative radiotherapy, 13 post-operative radiation alone, and 8 did not receive any therapy. Median follow-up was 36.4 months. The 3 year disease free survival was 71.2% and overall survival was 47% No major complication were observed. Five of 22 patients with facial nerve preservation experienced facial nerve paresis (3 grade IV, 1 grade V, 1grade VI). 7 patients after facial nerve resection and graft reconstruction had no recovery. A radical resection is mandatory for a good outcome. Postoperative radiotherapy is necessary to obtain a good local control. The incidence of major complications is minimal after pedicle flap reconstruction. Facial nerve paresis is the most common observed complication.

Keywords: ear cancer , radiotherapy, skull base surgery , temporal bone malignancy

FP012 // OTOTOLOGY // Cochlear and middle ear implants

My experience with Digisonic Implants in Indian population
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Cochlear implants are a solution to profound deafness in infants , children & adults who are profound deaf either pre lingual or post lingual . The incidence of deafness is on a rise in our part if the world with an annual incidence of about 6.3% in India . Digisonic implants we can provide monaural / simultaneous bilateral & with the latest Binaural implant where simultaneous binaural hearing is given in both the ears.

In this paper I would like to present my experience with Monaural/simultaneous bilateral & binaural implants about intraop & post experience & post therapy experiences with patients

Keywords: Monaural , simultaneous bilateral, binaural implants

FP013 // OTOTOLOGY // Otology and facial nerve

What is a better choice for salvage treatment for sudden deafness- hyperbaric oxygen therapy or intratympanic steroid treatment?
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(Terbio)
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Idiopathc sudden sensorineural hearing loss (ISSHL) is a rapid loss of hearing and affects 5 to 20 per 100,000 populations per year. The spontaneous recovery rate is 73% and develops into two weeks.

The goal of the investigation is to compare effects of hyperbaric oxygen (HBO) and intratympanic (IT) steroid treatment on hearing after the failure of primary treatment in patient with ISSHL.

A prospective, randomized clinical trial was conducted for 155 patients presenting with ISSHL. After the primary treatment with steroid and failure of therapy, fifty patients randomized into the two equal groups and received either HBO therapy or IT steroid therapy. Pure tone average (PTA) was calculated as

Keywords: ear cancer , radiotherapy, skull base surgery , temporal bone malignancy
the average of the thresholds at five frequencies at the beginning and ending of the secondary treatment. Also, mean hearing threshold for each of five frequencies were calculated in all patients. There were significant differences between values of threshold in all frequencies before and after the HBO treatment. Similarly, there were significant differences between values of threshold in frequencies 0.25, 0.5, 1 and 4kHz before and after the treatment in the IT group.

HBO and IT steroid therapy could be successfully used as a salvage therapy in patients with sudden deafness at least four weeks from onset. But HBO therapy is a better choice than IT for speech frequency 2kHz. HBO is recommended in patients younger than 60 years and with deafness less than 81dB.

Keywords // sudden deafness, hyperbaric oxygen therapy, intratympanic steroid

FP014 // OTOLOGY // Otology and facial nerve
Attic Tympanosclerosis - Surgical Management.
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VUJAY ENT CARE CENTRE

Tympanosclerosis surgery is one of the most fascinating surgeries. This surgery is made possible by the ambition of surgical experience and vast knowledge of middle ear pathology. When Incudo malleolar joint is totally fixed causing severe Conductive hearing loss, Tympanosclerosis can be removed by Epitympanotomy and Osicular chain can be made freely mobile to achieve normal hearing. This patient presented with severe hard of hearing and discharge. Cortical mastoidectomy done, Tympanosclerosis seen filling the antrum, around the incudo malleolar joint, fixed by Tympanosclerosis to the tegmen plate and anterior attic space. At this junction middle ear exposed. Osicular chain on palpation, seen to be fixed. Tympanosclerosis over the facial canal, promontory, foot plate cleared. Appendicular tendon cut, pyramidalis process cutetted to expose the posterior sinus tympani and Tympanosclerosis in posterior sinus tympani and around the posterior crura cleared. Wide Epitympanotomy done, Incudo Malleolar joint with Tympanosclerosis completely exposed. Tympanosclerosis cleared from incudomalleolar joint, fossa incudis and anterior to head of malleus and good space created all around the Incudo malleolar joint. At this junction the whole ossicular chain became freely mobile. Round window reflex elicited. Type-1 Tympanoplasty done. With the above procedure Tympanosclerosis completely removed, thus the natural architecture of the ossicular chain retained achieving excellent hearing result.

Keywords // Tympanosclerosis, Epitympanotomy, Posterior sinus Tympani

FP015 // OTOLOGY // Otology and facial nerve
Facial paralysis and Pregnancy: interest of an early care for an optimal rehabilitation.
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Introduction: Pregnant women are 3.3 times more likely to have a facial paralysis. Patients and Methods: This was a prospective review of 28 patients with facial paralysis during pregnancy or postpartum. The protocol was submitted at T = 0 and 6 months later and consists of two parts: a/ Functional assessment using House and Brackmann scale, the Sunnybrook scale. The French motor lingual facial (MBLF) and the bilateral force by the dynamometer b/ Psychological evaluation was analyzed using depression severity scale (MDADS), a scale for self-assessment of posttraumatic stress disorder (PC-5) and a self-assessment of anxiety (STAI)

Results: 53.7% of the women with facial palsy presented one or several modifications during their pregnancy: oedema, diabetes, arterial high blood pressure and/or pre-eclampsia, against 20% of the women without facial palsy. The patients of rank 5/6 with late rehabilitation (> 3 months) are 55.6% in rank 3 with sequelae, against 26.7% to early rehabilitation (< 15 days) (p = 0.001). An early treatment and reeducation guarantee an excellent recovery. On the contrary, late care and absence of treatment are synonymic of sequelae (p = 0.01).

The results of the self-administered questionnaire highlighted the multiple consequences of facial palsy, correlated to House and Brackmann grades.

Conclusion: We highlighted the importance of an early rehabilitation to avoid the implementation of hypertonia, to prevent or limit sequelae.

Keywords // Facial palsy, pregnancy, sequelae, rehabilitation

FP016 // OTOLOGY // Otology and facial nerve
Evaluation on shear bond strength of different glass ionomer cements used in ossiculoplasty.
Evaluation on shear bond strength of different glass ionomer cements used in ossiculoplasty, M. Tayyar Kalcioglu, Ismail Hakki Uzun, Muhemat Yalcin, Meral Arslan Malkoc, Ayse Tuba Ogeteren, Fatih Mehmet Hanege (Turkey)
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Objectives: Glass ionomer cements (GIC) have been widely used in dentistry for many years. In recent years, GIC have been used to ossiculoplasty as well. We investigated bond strength of GIC’s to ossicles.

Methodology: Twenty ossicles obtained from patients who have undergone ear surgery. All specimens were divided into four subgroups randomly. All specimens inserted into a specially designed apparatus for the shear bond strength (SBS) testing. Tested materials (Aqua Meron (AM), Aquc Cem (AC), Ketac Cem (KC), and Otominik HA (OH)) were prepared according to the instructions and applied. The SBS was tested using a universal testing machine at crosshead speed of 0.5 mm/min.

Results: The mean SBS’s were found to be 13.28 Mpa, 23.43 MPA, 8.51MPA, and 1.78 MPA for AM, AC, KC, and OH, respectively. AC had the highest SBS which was statistically significantly different from that of KC and OH (p

Keywords // Ossiculoplasty, Glass Ionomer Cement

FP017 // OTOLOGY // Otology and facial nerve
Endoscopy assisted tympanoplasty through the posterior tympanotomy: benefits, limitations and comparison to the transmeatal approach.
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In chronic otitis media mastoidectomy and posterior tympanotomy create the large air space. Endoscopic studies showed that some kinds of chronic otitis media may develop as the result of disturbances during embryogenesis. Complete tendon folds separating particular areas in the middle ear impair air passage and produce inflammatory conditions. On the other hand radical removal of the granulation tissue or cholesteatoma is not possible transmeatal only, unless posterior canal wall is damage.

One hundred sixty seven canal wall up tympanoplasties with posterior tympanotomy was enrolled to the study. In seventy seven cases, endoscopes were employed through the posterior tympanotomy. Control group consisted of ninety procedures without use of endoscope. Postoperative outcomes were assessed in aspect of healing, hearing and recurrence. Spearmann correlation test was use to compare the results in both groups. Differences between the groups were not statistically significant for time of healing, air-bone gap and tendency to the retraction and remnants of cholesteatoma in second look procedures performed in one year after first surgery. However the real recurrence index should be assess in longer period of follow-up. We concluded that standard CWU tympanoplasty with posterior tympanotomy performed by experienced surgeon is effective treatment of chronic otitis media and enable decrease air **bone** gap successfully.

Keywords // chronic otitis media, endoscopy, posterior tympanotomy

FP018 // OTOLOGY // Cochlear and middle ear implants
EVALUATION OF HEARING PRESERVATION IN COCHLEAR IMPLANTATION WITH ELECTRIC-ACOUSTIC STIMULATION
UNICAMP

EVALUATION OF HEARING PRESERVATION IN COCHLEAR IMPLANTATION WITH ELECTRIC-ACOUSTIC STIMULATION
UNICAMP
Background: Electric-acoustic stimulation (EAS) is an excellent choice for people with residual hearing in low frequencies but not high frequencies and who desire satisfactory hearing aids. EAS is expected to be effective, subjects’ residual hearing must be preserved during cochlear implant (CI) surgery.

Methods: We implanted 19 subjects with a CI. We used a special surgical technique and an electrode designed to beatraumatic. To measure rates of residual hearing preservation, subjects’ had unaided pre- and post-operative pure-tone audiometric tests at a mean of 18.4 months after implantation.

Results: 17 subjects had total or partial residual hearing preservation; 5 total hearing preservation and 2 subjects had no hearing preservation. The inner ear approach by cochleostomy occurred in 3 patients and 2 of them had no hearing preservation; the other 16 patients underwent round window approach. All subjects’ hearing benefited from cochlear implantation even those patients that are with electric stimulation alone.

Conclusions: Hearing preservation was achieved in most of the cases. We have more experience with our surgical technique so we are confident we will be able to report increased rates of residual hearing preservation. A higher follow up and other modalities of speech tests are essential for a better evaluation of the outcomes.

Keywords // Electric-acoustic stimulation (EAS), residual hearing preservation, cochlear implant, tinnitus

FPO19 // OTOLGY // Cochlear and middle ear implants

Benefit of preoperative CT scan in predicting operative difficulties to access the round window membrane for atraumatic cochlear implantation

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University Hospital of Montpellier and University Hospital of Grenoble

Objectives: Compare between radiologic & anatomic measurements of round window (RW) region; predict on CT degree of exposure & difficulties to access RW membrane (RWM) for atraumatic insertion of electrode arrays (EAs).

Methods: 10 cadaveric temporal bones (TBs) were CT scanned & underwent posterior tympanotomy (PT). CT scans of 126 normal TBs from livings were analyzed & compared with cadaveric TBs. Degree of exposure “H” of RWM through a theoretical PT was calculated on CT of 12 TBs. To confirm results; “H” was calculated on CT of another 7 cadaveric TBs & various EAs were tested in situ on them after PT. We also performed preop measurements of “H” on 9 patients with low-frequency residual hearing. They had atraumatic implantation & postop cone-beam CT to see if EA stayed in scala tympani. Results: There was no statistically significant difference (SSD) between radiologic & anatomic measurements of 10 cadaveric TBs & no SSD between radiologic measurements of 10 cadaveric TBs & 126 control TBs. “H” was great enough through PT that access to RWM was feasible in most cases. Other cases would need customizing of cochleostomy. For EAS to be effective, subjects’ residual hearing must be preserved during cochlear implant (CI) surgery, the subjects’ hearing benefited from cochlear implantation even those patients that are with electric stimulation alone.

Conclusions: Hearing preservation was achieved in most of the cases. We have more experience with our surgical technique so we are confident we will be able to report increased rates of residual hearing preservation. A higher follow up and other modalities of speech tests are essential for a better evaluation of the outcomes.

Keywords // Facial Nerve Palsy, mastoidectomy, computed tomography, neurolysis

FPO22 // OTOLGY // Otology and facial nerve

Long term follow up after “one-shot” CO2 laser stapedotomy: is the functional outcome stable during the years?

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The use of the “one-shot” CO2 Laser technique for a primary small-fenestra stapedotomy is well established, but few reports are present in the literature. From January 2008 to December 2011, 150 subjects underwent “one-shot” CO2 laser stapedotomies for otosclerosis. Pure-tonal audiometric tests were performed preoperatively, one month, two months and one year after surgery. After surgery, the air conduction-pure tone average improved significantly in the early postoperative period and continued to improve during the follow up whereas the bone conduction-pure tone average did not change. One year after surgery, audiometric tests did not showed a significant difference with the previous air bone gap. The analysis of our data suggests that “one-shot” CO2 laser stapedotomy is an effective and safe procedure for the treatment of the otosclerosis: it allows a rapid stapedotomy without damages for the inner ear and optimal functional results that remain stable during the years.

Keywords // Stapedotomy, CO2 Laser, hearing threshold, functional outcome

FPO23 // OTOLGY // Basic research

The role of stochastic bone cell behavior in the pathogenesis of otosclerosis

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Previous studies of undecalcified temporal bones labelled with basic fuchsin and fluorescent tissue time markers have revealed the unique spatial and temporal
patterns underlying inner ear bone development, morphology and pathology, and have lead to the identification of inner ear OPG as the responsible inhibitor of perilymphatic bone resorption. Age related degeneration of the OPG signalling pathway is expected to trigger bone remodeling in the otic capsule, but when this happens, as in otosclerosis, the morphology of the remodeling bone is abnormal and the distribution is not entirely smooth and predictable, but rather multifocal and chaotic with a predilection at the window regions. Based on histologic observations, the fundamental preconditions of perilymphatic bone cell behavior can be deduced. When this information is used to generate a virtual computer representation of the cellular signalling network, the fate of the aging network can be studied by a 'virtual histology' in any number of « individuals ».

We demonstrate how a simple combination of smooth functions and stochastic variation may produce centrifugal as well as focal degeneration of the cellular anti resorptive signalling pathway around the inner ear and create a permissive environment for otosclerosis.

Keywords // Connectivity models; Monte Carlo simulation

FPO24 // OTOTOLOGY // Cochlear and middle ear implants
Review of the first 100 CI patients operated by modified trans canal-direct tunnel technique with physiological angle for insertion
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The authors have shown a series of 100 implanted patients operated by minimal invasive surgery. There were 100 children with pre-or perilingual deafness aged from 17 months to 12 years. In four cases deafness was due to bacterial meningitis with incomplete ossification to cochlea. There was also five patients with severe cochlear hypoplasia and cochleal agenesis on the opposite side. Remaining 91 patients have had fairly normal cochlear morphology. Preoperative radiological assessment on CT scan in vast majority of patients. In cases of ear malformation and suspected ossification MSCT(multi slice CT scan) and MRI were performed in order to get finer details of ear anatomy. Primary surgery was performed in 94 patients. There has been one case of revision surgery due to device failure. Modified transcanal technique was performed in 35 of the patients. No peroperative or postoperative complications where met in this series. We found this technique feasible for cochlear implantation both in children and adults and also for all type of cochlear implant. Comparative advantages are minimal drilling of the bone and preservation of mastoid structure which is extremely important for children. This techniques enables safer access and better angle in performing cochleostomy in cases with normal anatomy as well as cochlear malformations or ossification of the basal turn. Also, modified transcanal technique enables physiological angle for insertion.

Keywords // CI surgery, complications, surgical approach

FPO26 // OTOLOGY // Otology and facial nerve
Powered Endoscopic Ear Surgery for Cholesteatoma
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The surgical goals for cholesteatomas are to remove diseased tissue, to make a dry XXX ear, to preserve normal anatomy, and to improve hearing. However, the rates of recurrent and residual cholesteatoma have been reported to be very high. To prevent residual cholesteatoma, hidden area control is necessary. To prevent recurrent cholesteatoma, restoring ventilation and mastoid preservation are also important. Recently, transcanal endoscopic ear surgery, TEES, has been introduced for cholesteatoma surgery. TEES enables hidden area control, restoration of ventilation, and mastoid preservation. The indication for TEES has been limited to cholesteatomas within the attic, because transcanal atticotomy has been performed mainly with a curette. To extend the indication for TEES, we currently use powered instruments such as the Ultrasonic Surgical System and High-Speed Curved Bur, instead of the standard drills. Endoscopic retrograde mastoidectomy is achieved up to antrotomy by the use of powered instruments. With this procedure, removal of the bony canal wall is minimum. Endoscopic retrograde mastoidectomy requires much less removal of the bony canal wall, which permits preservation of mucosa in the antrums. TEES with powered instruments has proved to be less invasive, secure and safe, and is a more functional procedure for cholesteatoma surgery.

Keywords // Cholesteatoma, Transcanal Endoscopic Ear Surgery, retrograde mastoidectomy on demand, powered instruments

FPO27 // OTOTOLOGY // Audiology
The predictive value of VEMP testing in those with suspected early Meniere's disease.
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Guy's Hospital & St Thomas' NHS Foundation Trust

Introduction
Meniere's disease (MD) is an uncommon vestibular condition consisting of spontaneous unpredictable bouts of severe rotatory vertigo, tinnitus and hearing loss. Achieving an early diagnosis, and hence instituting appropriate management, may prove difficult and unduly prolong patients' symptoms. Cervical vestibular evoked myogenic potential (cVEMP) testing provides a method of assessing the inferior vestibular nerve pathway which may be affected in the early stages of this disease. We therefore explored the possibility of using cVEMP testing in patients with suspected MD to improve the accuracy and early diagnosis of this challenging condition.

Method
We performed cVEMP testing in 6 patients with suspected early MD. Responses were compared with 6 patients with an isolated caloric confirmed unilateral peripheral vestibular hypofunction, and a further 6 control subjects with normal peripheral vestibular function.

Results
Reduced VEMP amplitude responses (P1N1) were recorded in 2 suspected MD patients (33%), VEMP responses were normal in all other patients and control subjects (100%).

Discussion
The results of this study suggest that reduced cVEMP responses may support the early diagnosis of MD. However, patients must report additional qualifying symptoms. We recommend additional research involving a larger number of patients with suspected MD.

Keywords // MENIERE'S DISEASE, VEMP, DIAGNOSIS
Objective Measurement of the Human Endolymphatic Sac Dimensions in Ménière’s Disease

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The human endolymphatic sac is a complex membranous structure of interconnecting tubules, cisterns, and folds. Most likely, the endolymphatic sac plays an important role in endolymphatic fluid regulation. The aim of this study was to identify structural differences between the endolymphatic sac of temporal bones with and without Mënîé re’s disease by applying design-based stereology. Archival materials of 15 human temporal bone with Mënîé re’s disease and 15 control specimens were investigated. Results revealed that the total surface area of the endolymphatic sac was significantly lower in the Mënîé re’s disease group (24.8 mm²) compared with the control group (47.0 mm²), p = 0.006. The volume fraction of the homogenous substance was significantly higher in the Mënîé re’s disease group (17.5%) compared with the control group (5.7%), p = 0.031. No significant differences were found between the volumes of the homogenous substance, the volumes of the endolymphatic sac, and the surface-to-volume ratio in the 2 groups. Design-based stereology is a robust, unbiased and efficient tool to quantify 3-dimensional structures derived from 2-dimensional histologic sections. A 2-fold reduction in the surface area of the endolymphatic sac and a 3-fold increase in the volume fraction of homogenous substance in temporal bones with Mënîé re’s disease may, at least in part, be involved in the dysfunction of endolymph fluid homeostasis and the development of endolymphatic hydrops.

Keywords: Design-based stereology; Endolymphatic fluid regulation; Endolymphatic hydrops;

Cochlear implant with middle ear exclusion: indications and anatomical results

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Introduction: cochlear implant surgery in adults is well-established technique since many years. However, most difficult cases (chronic otitis, cochlear ossification, malformations, etc) could be difficult to manage with the classical facial recess technique.

Material and methods: 19 cases (17 patients, 2 implanted bilaterally) of 634 patients implanted (3%) between January 2009 and December 2012 have been included in this retrospective study. Etiologies of hearing loss were: chronic otitis in 12 cases, meningitis with cochlear ossification in 3 cases, progressive hearing loss in 2 cases, vestibular schwannoma and enlarged vestibular aqueduct in 1 case. Four cases were revision surgery for malposition of electrode array (2 cases with cochlear ossification) and recurrent cholesteatoma (2 cases).

Results: All patients were implanted with middle ear exclusion and obliteration of the cavity with abdominal fat. Electrode array insertion was possible in all cases in the basal turn (18 cases) or in the middle turn (1 case) and controlled with a post-operative CT-scan. No case of infection of the implant or recurrent disease was observed. One case of major failure of cochlear implant was observed 5 months after surgery.

Conclusion: Cochlear implant with middle ear exclusion is a safe and effective technique for selected case of cochlear implantation. Lowering the facial ridge allows more space to manage extensive cochlear ossification or malformation and prevent from recurrent disease.

Keywords: middle ear exclusion, cochlear implant, ossification, malformation, cholesteatoma

Early and 1-year functional results of internal auditory canal decompression for hearing preservation in NF2 patients

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Aim of the study: to evaluate early and 1-year hearing results of internal auditory canal decompression through the middle cranial fossa approach in NF2 patients with only hearing ear

Materials and method: Twenty-two patients were included in this retrospective study. All patients presented unilateral deafness and deterioration of the hearing in the contralateral ear (sudden neurosensorial hearing loss, fluctuating progressive hearing loss). Hearing level was of class A (AAA-HNS) in 11 cases, B in 6 cases, C in 3 cases and D in 2 cases. All patients were operated via middle cranial fossa approach with facial nerve monitoring system (NIM 2 and 3 “Medtronic) and computer-assisted navigation (Digipointeur™ Collin). Early PTA and SDR 6 days and 1 year after operation were performed.

Results: Surgeries were uneventful. Two patients experienced transient facial nerve palsy grade II. One patient was reoperated 5 day after first surgery for CSF leak. In the early post-operative period all patients maintained the hearing class of the preoperative period. At 1 year follow-up (n=14) 10 patients maintained their hearing scores, 1 patient got worse from class B to class C, 1 patient from class A to class C. One patient improved from class D to class C.

Conclusions: Decompression of IAC in only one ear is a safe and effective procedure for hearing preservation in NF2 patients with very low morbidity.

Keywords: NF2, decompression, vestibular schwannoma, middle fossa

Preliminary results on the applicability of Vibroplasty™ Couplers for coupling the Vibrant Soundbridge® to different middle ear structures

Karoline Etschmaier, Arneborg Ernst, Karl-Berndt HA_tenbrink, Hans Wilhelm Pau, Thomas Zahnert, Rudolf Hagen, Hubert Löwenheim, Mario Wolframm (Austria)
Vibrant MED-EL Innsbruck

Vibroplasty Couplers were designed to increase and facilitate the attachment possibilities of the Vibrant Soundbridge (VSB) - an active middle ear implant - in patients with conductive or mixed hearing losses. The Couplers are available in four designs and may be placed either in the oval window, the stapes head, or the round window. The aim of the present study is to gather data on safety and effectiveness of the Vibroplasty Couplers in adults with conductive or mixed hearing losses. A single-subject repeated measures design (n=30) was chosen. Implantations were performed without significant medical or intraoperative complications. The first results include short term data from 11 patients. Unchanged BC thresholds from pre-, to post-operative confirmed safety as residual hearing was unharmed. Hearing improvement due to VSB/Coupler implantation was considerable, as the functional gain ranged from 20 dB HL to 60 dB HL 3 month after surgery. Moreover, word recognition scores increased up to 16-fold and the SNR for 50% word understanding improved by more than 7 dB. Data from a greater number of patients as well as from coupler-specific results will be available soon. These preliminary data show that patients implanted with the Vibroplasty Couplers have good aided benefit and good speech understanding with only minor complications. The data suggest that the Vibroplasty Couplers are effective tools to facilitate an optimal placement of the VSB in difficult middle ear pathologies.

Keywords: Vibroplasty Couplers

First clinical results with the BoneBridge for conductive and mixed hearing loss

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Medical University Hannover

Introduction

A new implantable hearing system with a transcutaneous transmission was introduced for the treatment of moderate conductive and mixed hearing loss. The new system "BoneBridge AA" was developed as a new product based on the active middle ear implant "Vibrant Soundbridge®" by MEDEL.

Patients and Methods

18 patients (mean age: 56j) with moderate conductive and mixed hearing loss were recruited.. The mean preoperative hearing was for the bone conduction 12
Patterns can be identified.

Body posture, user-provided data and video recordings of the subject. We have of a single voice, whose spatial position and spectral/temporal characteristics kinds of hearing loss is needed. Unfortunately, traditional audiological research a realistic and preferably objective measurement of impairment due to different kinds of hearing loss is needed. Unfortunately, traditional audiological research pays little attention to the ecological complexities of human communication. Performance measures in the laboratory usually test the segmental intelligibility of a single voice, whose spatial position and spectral/temporal characteristics are static and predictable. “Real life” conditions cannot be created in the traditional auditory testing setup.

We have developed a spatial sound laboratory that provides the environment for fine-grained control of spatial auditory scenes. An arbitrary number of sound sources can be distributed and mixed so that a realistic spatialized sonic scene with clearly recognizable sound localization can be produced in the lab setting. Beyond static scenes, also sounds of moving objects can be created. In result, the system allows to simulate sonic environments as they appear in everyday life of listeners. The data recorded in this experimental procedure are multi-modal, containing body posture, user-provided data and video recordings of the subject. We have developed visual rendering procedures that depict the measured data so that patterns can be identified.

From these pilot measurements, we are confident that the experimental setting is capable to analyze spatial listening capabilities and their dependence on variables such as change of a hearing aid program.

Keywords // Bonebridge, middle ear implant

**FPO33 // OTOLOGY // Otology and facial nerve**

Long-term results of Balloon Eustachian Tuboplasty in patients with chronic obstructive Eustachian tube dysfunction

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Klinikum Bielefeld - ENT Department

Sufficient diagnostic tools and effective therapies for chronic obstructive Eustachian tube dysfunction are missing. We performed a transnasal endoscopic balloon dilatation of the cartilaginous part of the Eustachian tube (Balloon Eustachian Tuboplasty, BET) in adults since 4 years. We treat patients with a chronic obstructive dysfunction of the Eustachian tube proven by negative Valsalva maneuver, tympanometry and tubomanometry. A balloon catheter is inserted into the Eustachian tube via the pharyngeal opening and cartilaginous part of the Eustachian tube is dilated with a pressure of 10 bars for 2 minutes.

To date about 351 patients with chronic obstructive Eustachian tube dysfunction have been treated with the balloon dilatation method. The patients (89 ears) 12 month after dilatation had a pre-treatment average tube score of 2.1 (Â± 1.8 SD). One year after treatment, the score improved to 6.07 (Â± 2.6 SD). In 87% of the ears the complaints were subjectively significantly reduced and in 49% of the patients we showed a normalisation of the function of the Eustachian tube. The patients (22 ears) 24 month after dilatation had a pre-treatment average tube score of 1.5 (Â± 2.2 SD). Two years after treatment, the score improved to 6.14 (Â± 3.2 SD).

Our first long-term results suggest the Balloon Eustachian Tuboplasty as feasible and safe treatment for chronic obstructive Eustachian tube dysfunction.

Keywords // eustachian tube, tube dilatation, tympanoplasty

**FPO34 // OTOLOGY // Audiology**

**A SYSTEM TO INVESTIGATE SPATIAL HEARING IN “REAL-LIFE” CONDITIONS**

Martin Lehmann, Thomas Hermann, Stefanie Schröder, Holger Sudhoff, Jörg Ebmeyer (Germany)
Klinikum Bielefeld - ENT Department

A realistic and preferably objective measurement of impairment due to different kinds of hearing loss is needed. Unfortunately, traditional audiological research pays little attention to the ecological complexities of human communication. Performance measures in the laboratory usually test the segmental intelligibility of a single voice, whose spatial position and spectral/temporal characteristics are static and predictable. “Real life” conditions cannot be created in the traditional auditory testing setup.

We have developed a spatial sound laboratory that provides the environment for fine-grained control of spatial auditory scenes. An arbitrary number of sound sources can be distributed and mixed so that a realistic spatialized sonic scene with clearly recognizable sound localization can be produced in the lab setting. Beyond static scenes, also sounds of moving objects can be created. In result, the system allows to simulate sonic environments as they appear in everyday life of listeners. The data recorded in this experimental procedure are multi-modal, containing body posture, user-provided data and video recordings of the subject. We have developed visual rendering procedures that depict the measured data so that patterns can be identified.

From these pilot measurements, we are confident that the experimental setting is capable to analyze spatial listening capabilities and their dependence on variables such as change of a hearing aid program.

Keywords // spatial hearing, single sided deafness, hearing aids

**FPO35 // OTOLOGY // Otology and facial nerve**

Cholesteatoma with younger population

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ENT Clinic-University of Nis

The term cholesteatoma refers to a keratinized desquamated epithelial collection in the middle ear, mastoid, epitympanic or petrous apex. It can be seen in age group but in the younger population it is usually very agressive and recurrent.

During the 2012 I had four young patients with cholesteatoma. The age of patients were from 10 to 18 years old. Symptoms were suppuration, conductive hearing loss and one of them had vertiigious symptoms. CT or MRI was done preoperatively for three of them. The operation was done in general anesthesia. In three cases it was performed mastoidectomy "canal wall up " and tympanoplasty with osioplasy.In one case was used transcanal approach because of the localisation of cholesteatoma. For tympanic membrane reconstruction it was used tragal or conchal cartilage with or without temporalis fascia. Pathoyslogical examination confirmed cholesteatoma. Postoperatively patients were treated with antibiotics - cephalosporins III generation. Second stage operation with MRI examination preoperatively is planed because of the fact that cholesteatoma is usually recurrent, especially with younger population.

Keywords // cholesteatoma

**FPO36 // OTOLOGY // Otology and facial nerve**

Cholesteatoma growth patterns: is there a difference between children and adults?

Letícia Rosito, Sady Selaimen da Costa, Fabio Selaimen, Yuri Jung (Brazil)

Introduction: Acquired cholesteatoma has been typically classified according to the following routes: posterior epitympanic, posterior mesotympanic and anterior epitympanic. There is no other study about the real prevalence of these classic routes and if cholesteatomas in children and adults have the same growth patterns.

Objective: To verify if there is difference in the prevalence of cholesteatomas routes between children and adults

Subjects and Methods: We evaluated 278 consecutive patients with cholesteatoma and no previous surgery between August 2000 and January 2012. Otoendoscopy was performed and the images digitally recorded. They were later analyzed by two senior otologists. Patients where sub classified in two groups: adults (over 18 years old) and children. To compare these groups we employed the chi-square test, considering statistically significant P values minor or equal to 0.005 .

Results: The mean age was 31.42 years and 54.8% was male. When we compare children (n=71) and adults (n=207), the posterior epitympanic cholesteatoma was more prevalent in adults (56.7%) and the posterior mesotympanic in children (63.4%) P=0,007. Anterior epitympanic cholesteatomas are very rare in ours series (n=7). All of them but one were in children.

Conclusion: In our series of patients the posterior epitympanic route was more prevalent in adults while the posterior mesotympanic and anterior epitympanic were more frequent in children.

Keywords // Cholesteatoma, children

**FPO37 // OTOLOGY // Cochlear and middle ear implants**

Bilaterale Bonebridge vs BAHAN

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Background: Bonebridge is a new transcutaneous implantable hearing device works by bone conduction it is suitable for conductive and mixed hearing loss or SSD, it is externally worn audio processor and an implant which is surgically positioned under the skin, the audio processor is hold directly over the implant by magnetic attraction.r.BAHAN is known more than 30 years as percutaneous bone conduction implant used for same indication
Methods: In our study we to compare the result of bilateral bone bridge implant with bilateral BAHA. Two patient with bilateral conductive or mixed hearing loss and were selected fit for selection criteria of bonebridge underwent simultaneous bilateral bonebridge implant as first two cases in the world. Another two patient with the same indication underwent bilateral BAHA. Also two patients were planned for bilateral bonebridge but due to intra operative anatomical difficulty after doing bonebridge in one side we implanted BAHA in the other side.

Results: Postoperative PTA of all of patients groups showed improvement of hearing in each side with better result of both side together also it give better result regarding sound localization. All the three groups gave comparable result for all parameter except cosmetic which is in favor of bonebridge.

Conclusion: Bonebridge is a new active bone conduction implant which gives a comparable result to BAHA; because of small size number implant further studies will be needed to support our result.

Keywords // Baha, bonebridge bilateral

FPO38 // OTOLGY // Cochlear and middle ear implants

Hearing performance in binaural cochlear implanted patients with single device

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University of Medicine and Pharmacy “Gr.T. Popa” Iasi, Romania

Aim: Speech understanding can be improved and sound localization become possible by bilateral cochlear implantation. For adult patients the binaural cochlear implantation with single device provides, besides increased hearing outcomes, is important the reduced cost compare to bilateral cochlear implantation. This study evaluates the performances in tonal hearing, speech understanding and sound localization for postlingual deaf adults with binaural cochlear implant devices.

Material and methods: The study includes six patients with severe or profound sensorineural hearing loss who were implanted with binaural cochlear implant, which were evaluated periodically over 30 months. The audiological outcomes were evaluated at 3 months, 6 months, 12 months, 24 months and 30 months after the first fitting.

Results: The tonal free field audiometry shows auditory thresholds close to normal hearing and speech understanding mean score was over 75% in quiet and 70% in noise. Sound localization performance increased in time constantly and is better with bilateral versus unilateral implant.

Conclusions: Bilateral stimulation is significantly better than unilateral stimulation in all conditions, including when noise is presented ipsilaterally. The cochlear implant users perceive their own performance to be better with bilateral implant versus unilateral.

Keywords // binaural cochlear implant

FPO39 // OTOLGY // Miscellaneous

Motion Sickness : An overview

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Centre Hospitalier Luxembourg

Motion sickness is a physiological reaction to a non physiological stimulation. It may be induced by a real or a simulated motion. Children, women and patients with migraine seem to be more affected by the disease. Motion sickness occurs usually on a boat, in a car, in a plane or a space vessel. Some people experience the disease on a camel, a horse, an elephant or even on a waterbed. Motion sickness is explained as a central mismatch with a conflict between visual, labyrinthine and proprioceptive informations. Different clinical situations are presented: car sickness, sea sickness, air sickness, ski sickness, amusement parks... Visually induced motion sickness is discussed for IMAX movies and game simulators. Prevention of motion sickness, medical treatment and rehabilitation possibilities are presented.

Keywords // central mismatch, car sickness, sea sickness, air sickness, ski sickness, real or simulated motion, rehabilitation

Intraoperative Monitoring of Hearing During Acoustic Tumor Resection

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Data collected during intraoperative monitoring of hearing (IM) by transtympanal electrocochleography (TT-ECochG) and auditory brainstem responses (ABR) could provide some data to develop an effective model of prediction of postoperative hearing results following cerebello-pontine angle tumor (CPAT) surgery.

Methods and Measures: Fifty patients with CPAT were operated by middle fossa approach. IM was performed using TT-ECochG and ABR. Developed by the authors software collected all intraoperative data automatically analyzing ABR-Wave-V latency changes and compound action potential amplitude (CAP-Amp) and latency (CAP-Lat) fluctuation during tumor debulking and resection.

Results: In all monitored ears CAP-Amp, CAP-Lat and ABR wave V were on-line visualized. TT-ECochG needed 4 – 6 sec per sweep for effective IM while ABR 20-30 sec. CAP morphology details were displayed making easier the analysis of IM hearing status than ABR. Intraoperative fluctuations of CAP-Amp and CAP-Lat corresponded better to clinical situations occurring intraoperatively. The correlation tests revealed that number intraoperative hearing dysfunction, prolongation of post-op CAP-Lat, ABR-Wave-V, and ABR I-V inter-latency value as well as CAP-Amplitude reduction perfectly correlated with postop PTA.

Conclusions: Some parameters of ABR and TT-ECochG measured during IM of hearing let to develop an effective model of prediction of postoperative hearing with no special time consuming procedure.

Keywords // Acoustic tumor, Intraoperative monitoring of hearing, ECochG

FPO41 // OTOLGY // Otology and facial nerve

TRANSCUTANEOUS BONE CONDUCTION IMPLANT: PRELIMINARY RESULTS OF THE BONEBRIDGE IN A MULTICENTRIC STUDY

Sébastien SCHMERRBER, Bernard FRAYSSE, Olivier DEGUINE, Benoît GODEY, Christophe VINCENT, Jean-pierre LAVIELLE, Arnaud DEVEZE, Alain UZIEL, Michel MONDAIN, Frederic VENAIL, Paul VAN DE HEYNING, Bruno FRACHET, Pierre GARIN (France)

Department of ENT, Chu Michallon Grenoble, France

Objectives: Bone conduction (BC) hearing systems are an attractive solution to restore hearing in patients with conductive (CHL) or mixed hearing loss (MHL), or with single sided deafness (SSD). A recent alternative to percutaneous bone anchored hearing aid is the Bonebridge, an active Bone Conduction Implant (BCI) which is a transcutaneous system. The device was implanted in about 30 patients in France and Belgium. The present study aims at presenting the first results.

Methods: 30 subjects, having a CHL, MHL or SSD, were implanted with a Bonebridge. Performance was measured by pure-tone and speech audiometry tests in quiet and in noise.

Results: Pure-tone tests show that thresholds measured with the Bonebridge are close to BC thresholds. Concerning SSD, thresholds measured with the Bonebridge seem to be about 10 dB lower that contralateral BC thresholds. For speech recognition measures, performance improved significantly with the Bonebridge, both in quiet and in noise.

Conclusion: These preliminary results show that the benefits obtained with the Bonebridge, similar or better to the ones that could be obtained with a BAHA, correspond to our expectations. With benefits equivalent to existing technologies, the transcutaneous BCI can be preferred for several reasons, among them to avoid cutaneous complications.

Keywords // bone conduction implant, conductive/mixed hearing loss, single sided deafness

FPP01 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery

Promises of Stem Cells in Cosmetic Medicine

Ibrahim El Achkar, Wissam Achkar (Liban)

Middle East Institute of Health

Liposculpture with autologus fat graft is one of the best durable, safest and regenerative procedures of the face and body.

Between January 2000 and January 2010, 5200 patient have been treated with liposculpture.
In this study, we discuss the aesthetic result and regenerative action of fat graft, fat enriched stem cells (A. Fat Tissue + Adipose-Derived Stem & Regenerative Cells (ADRCs)), Adipose-Derived Stem & Regenerative Cells (ADRCs) and pure stem cells. The use of fat graft with or without ADRCs provides great results in aesthetic, rejuvenation and regenerative procedures. There is an enormous amount of promise with stem cells in plastic and reconstructive surgery, which needs at least 5 years to be scientifically approved.

Keywords // Stem Cells/ Liposculpture/ Lipofilling

**FPPO2 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery**

Our experience in a Osteoplastic Frontal Sinusotomy

Modern view on a Osteoplastic Frontal Sinusotomy, Yansenka Vitali (Bielorussie) Bel. _rusian Medical Academy of Postgraduate Education

**Introduction**

In the cases of large osteomas, fractures, intracranial complications of frontal sinus pathology, exploration with forming a wide window is necessary. In our opinion, in these clinical situations, osteoplastic frontal sinusotomy is mandatory.

**Patients and Methods**

We present the osteoplastic frontal sinusotomy including development an osteoplastic flap with using a CO2 laser. 67 patients have been treated surgically in the ENT Department of the Minsk Regional Clinical Children’s Hospital between January 1 2001 and December 30 2011.

With CO2 laser application (if the bone was thick we used a chisel) the anterior frontal table was osteotomized and osteoplastic flap was formed with mucoperiosteal attachment for blood supply.

**Results**

The follow-up time ranged from 3 months to 11.5 years. Some complications were encountered in some of these cases , but major complication such as death, meningitis, brain abscess, mucocele or mucopyocele have not been recorded. There were no cases of flap necrosis, cosmetic effect was found as quite satisfactory.

1. CO2 laser application used to prevent cracking when the bone fragments were thin and fragile. The well-measured, targeted application of laser light is a clear step forward in this field.
2. Osteoplastic frontal sinusotomy was found to be sparing and effective technique for operative management on frontal sinus pathology, ensuring both good cosmetic and functional results.

Keywords // frontal sinus, osteoplastic frontal sinusotomy, coronal incision, osteoplastic flap, CO2 laser

**FPPO3 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery**

Lower Lateral Crural Reverse Plasty; Case Report

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**ABSTRACT**

The lateral crus is an important aesthetic and functional structure of the nose. Functionally, it is a part of the external nasal valve in the anterior portion of the nasal airway. Excessive concavities of the lower lateral crus may lead to both aesthetic disfigurement and functional impairment of the nose. This region may be the site of obstruction in patients with compromised nasal airways. With the lower lateral crural reverse plasty, severe concavities of the lower lateral crus can be corrected. This technique is a useful and reproducible procedure.

Satisfactory results were achieved without any complications.

Keywords // Alar cartilage- External nasal valve collapse -Lateral crus- Pinched tip deformity- Reverse plasty

**FPPO4 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery**

The posterior auricular muscle as an anatomical landmark to prevent breaching of external auditory canal skin during pinnaplasty: A radiologically-guided surgical study.

Louise M Evans, Hannah Khirwatkar, Sam Fishpool, Christopher Goodwin & Steven Backhouse. (United Kingdom)

**Background:** The role of the posterior auricular muscle (PAM) in the pathogenesis and correction of prominent ears is widespread in the literature. Operative techniques vary. A common complication is inadvertent perforation of the ear canal skin during removal of post-auricular soft tissue. This study investigates the identification of the borders of the PAM as a consistent anatomical landmark for the external auditory canal (EAC).

**Method:** A retrospective study using the RADIS II database. Paediatric MRI scans with contrast in East Albertrawe Bro Morgannwg Health Board over a two-year period were identified. T1 weighted axial images were examined using both multiplanar reformating and the crosshair facility on PACS system, allowing the correlation of the level of the belly of the PAM on axial images with the EAC on the corresponding axial plane.

**Results:** Thirty scans were identified. All demonstrated that the belly of the PAM lies at least at a level on sagittal views that corresponds to the EAC superior border. Comparative intra-operative photos of the PAM position were also obtained.

**Conclusion:** Identifying the PAM as a landmark during pinnaplasty is simple and to be commended to all pinnaplasty surgeons. The muscle position allows surgeons to adjust their approach to produce improved results by identifying the level of the EAC, thus reducing the risk of inadvertent perforation of the EAC skin during post auricular soft tissue removal.

Keywords // Pinnaplasty, complications.

**FPPO5 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery**

Frontal Bone Reconstruction with Standard-Shaped Bioactive Fiber-Reinforced Composite Implant

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Department of Otornolaryngology - Head and Neck Surgery, Turku University Hospital

**Aim**

Objective of this pilot type survey was to evaluate early clinical outcomes of frontal bone reconstruction with standard-shaped bioactive FRC implant.

**Material and methods**

Four patients (age 41-69, mean age 55) diagnosed with frontal sinus mucocele were operated during years 2011-2012.

After removal of mucocele and nasofrontal duct occlusion, the frontal sinus was obliterated with bioactive glass granules 0.5 to 0.8 mm in size (BonAlive Biomaterials) followed by covering the sinus with standard-shaped bioactive FRC implant.

The implant consisted of a supporting bioactive FRC framework giving anatomic form for the outer surface and porous inner surface with resorbable bioactive glass particulates. Polymer matrix of FRC is highly polymerized thermoset resin, which binds the bidirectional reinforcing glass fibers.

**Results**

The aesthetic and functional outcomes of three patients were good and normal progressive wound healing was observed. One patient developed a problem with wound healing and this led to implant removal 12 months after the reconstruction.

**Conclusion**

Within the limitations of this pilot study, it can be concluded that standard-shaped the FRC implant may provide an alternative for bone grafting in frontal sinus operations. Special attention needs to be paid to the fit of the standard-shaped implants, which can be obtained by increasing the selection of implant shapes and by contouring the margins of the operation area to better fit with the implant.

Keywords // Craniofacial bone reconstruction, fiber-reinforced composite, bioactive glass, craniofacial, skull bone defect

**FPPO6 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery**

Clinical Use of Osteosynthesis Device Made of Hydroxyapatite-Poly-L-Lactide Composites in Reconstruction of the Blow Out Fracture

Eri Mori, Kiyosi Yanagi, Hirotaka Uchimizu, Sayaka Sampei, Yuko Yamada (Japan)

St.Luke’s International Hospital

**[OBJECTIVE]** For bone fixation in the field of oral and maxillofacial surgery, metal or poly (L-lactide) fixation device are commonly used. But it is needed re-surgery
CONCLUSIONS

The Super Fixsorb®-R is a new material in the reconstructions and it is not necessary to have the re-surgery for removal.

Evaluation of eyeball movement, subjective symptom of diplopia and sinus CT scanning were improved between pre- and post-operatively. 

[CONCLUSIONS] The Super FIXSOB®-R is a new material in the reconstructions of the blowout fracture of both the inferior and the medial walls. It is effective to improve the symptoms and objective examinations of the blow out fracture and it is not necessary to have the re-surgery for removal.

Keywords: // orbital wall fracture, super fixsorb

FPPO7 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery
Septorhinoplasty; our path to satisfactory aesthetic and function
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Today, septorhinoplasty is probably the most demanding plastic surgery procedure with two goals to satisfy; aesthetic challenge and restoring nose function. Multiple approaches, techniques and philosophies have emerged over the past decades with a single aim; to create a beautiful and functional nose. To critically summaries our work we reviewed 200 cases done in the last four years in our ENT Department. After physical examination careful surgical planning included photography and drawings. Postoperative outcome was evaluated by standard Rhinoplasty Evaluation Score (ROE) in a form of questioner sent to the patients. Collected data was analyzed. We encountered diverse types of nasal deformities including dorsal humps, crooked nose, tip displacements, “over-resected” nose, etc. Different surgical techniques were used including grafts, struts, sutures. Donor site for graft delivery was septal cartilage but in few cases we used auricular and costal cartilage. We never used cartilage glue grafts, PDS plate or alloplastic material. Although, we employed both open and closed approaches in the last year more emphasis are put on open approach and possibilities in tip refinement techniques. Since the most indications for revision in septorhinoplasty are due to over-resection of nasal skeleton, our motto is “less is more”.

Keywords: // septorhinoplasty, aesthetic, function

FPPO8 // PLASTIC SURGERY // Rhinology Anterior skull base
Closed Reduction of Nasal Fractures: Are patients Satisfied?
Neil Foden, Matthew Ellis (United Kingdom) Royal National Throat, Nose and Ear Hospital

Aim
Nasal fractures are seen commonly in ENT clinics. Closed reduction or manipulation under anaesthetic (MUA) of a fractured nose is performed for functional or cosmetic reasons. We sought to ascertain patient satisfaction following MUA nose.

Methods
A retrospective review of all adults who underwent MUA nose for nasal fractures at a single centre over an 18-month period (December 2010-May 2012) was undertaken. A structured interview was carried out by a single interviewer.

Results
106 patients out of 151 patients were successfully contacted (70.2%). There were 75 males (70.8%). Cause of trauma included assault (42%), sport (33%) and accidental/fall (25%). 93% were consented for failure of outcome of MUA. 45 (42%) would consider further surgery following their MUA. Independent risk factors for patients wanting further surgery were no previous sinonasal surgery (adjusted OR 4.79, p=0.024) and breathing symptoms (adjusted OR 3.98, p=0.002).

Conclusion
MUA for fractured nose is an acceptable treatment in the first instance and should be attempted, but a number of patients may be dissatisfied. 42% would consider revision surgery which has consequences for service provision. This is a higher proportion than previously reported. It is essential that all patients undergoing MUA following a nasal fracture are consented for failure and that revision surgery may be required.

Keywords: // Nasal fracture, closed reduction

FPPO9 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery
Breathe-Implant or Spreader Flaps or Both?
Daniel F. à Wengen, Marc Bloching (Switzerland) ORL Center

The Titanium Breathe-Implant has been successfully implanted in several thousand patients for 10 years to widen and to stabilize the internal nasal valve. Spreader Grafts have been applied in Rhinoplasty for 24 years. Their function is to provide strength and stability to the middle vault of the nose. Spreader Flaps are a new form of Spreader Grafts: rolled-in upper lateral cartilages. Spreader Flaps and Spreader Grafts do not open the internal nasal valve reliably. They have no effect on the stability of the lateral nasal wall. Their line of action is along the nasal dorsum. The Breathe-Implant however follows the internal nasal valve precisely as it widens the upper lateral cartilage at their lower border. This effect provides a proven opening of the valve. Spreader Flaps/Grafts can readily be combined with Breathe-Implant as the implant can be placed on top. This combination offers the best of both worlds: Strength for the nasal dorsum by Spreader Flaps/Grafts and opening of the internal nasal valve by Breathe-Implant.

Keywords: // Titanium Breathe-Implant, Nasal Valve, Nasal Obstruction, Rhinoplasty, Spreader Grafts, Spreader Flaps

FPPO10 // PLASTIC SURGERY // Rhinology Anterior skull base
‘PDS sandwich’ columellar strut graft to maintain tip projection
Natasha Choudhury, Ahmad Hariri and Hesham Saleh (United Kingdom) Charing Cross Hospital, Imperial College NHS Trust

Background
Columellar struts are a common grafting technique. Autologous cartilage is ideal but may be weak or insufficient. We have developed a novel polydioxanone (PDS) columellar strut graft, as a ‘sandwich’ with autologous cartilage. The PDS plate acts as a scaffold and the strut is maintained by regenerating cartilage, even after PDS is resorbed by 6 months. We evaluated the stability of the ‘PDS sandwich’ columellar strut.

Methods
We review patients who underwent ‘PDS sandwich’ columellar struts. Patient data and pre and post-operative nasal length and tip height were recorded. Goode’s Index (GI) was calculated for tip projection before and after surgery and statistically analysed.

Results
27 patients (16 males, 11 females) with mean age 33.7 years were studied. Surgical indications included columellar retraction, dislocation and poor tip support. Mean follow up was 7 months. Mean pre-op GI was 0.58 +/- 0.13 and post-op was 0.59 +/- 0.06. There was no significant difference in GI before and after surgery (P=0.633), suggesting no significant resorption or collapse in our patients. Clinically, one patient had post-operative columella retraction, requiring columelloplasty.

Discussion
Autologous cartilage is the ideal graft for columella reconstruction. However, when deficient or weak, we have used PDS with any available cartilage, as a columellar strut. Our results show no significant post-operative retraction or resorption of the columella subunit with this technique.

Keywords: // PDS, columellar strut

FPPO1 // RHINOLOGY // Allergy
An Integrative and Holistic Approach to Allergy Diagnosis and Treatment
Leonard A. Rubinstein, M.D., F.A.A.Otto-HNS/F, N/A (USA) The Center for Integration in Ears, Nose, Throat and Allergy
Background: Conventional approaches to the diagnosis and treatment of allergic disease associated with chronic rhinosinusitis have included allergen skin testing followed by injection immunotherapy. Inherent flaws in both the techniques of skin testing and the resultant injection immunotherapy have resulted in less-than-optimal patient results and an associated apprehension regarding the experience and dissatisfaction on the part of the patients. We have developed a holistic and integrative approach to the diagnosis and treatment of allergic disease that makes skin testing and injection immunotherapy unnecessary.

Methods: Conventional and alternative diagnostic tools and treatment from oriental, ayurvedic, energetic and homeopathic protocols are used and we supplement nutriceutical and hormonal deficiencies where indicated. We have ceased allergy injection/prick skin testing with allergen-specific IgE and IgG in-vitro testing and added provocational contact dermal testing where indicated. We have replaced injection immunotherapy with allergen-specific sublingual immunotherapy. This approach has led to a more comprehensive assessment and stabilization of the functional environment of the patient.

Results and Conclusions: Through our comprehensive, integrative and holistic approach to allergy diagnosis and treatment we have seen better patient compliance with recommended therapy and an overall enhanced patient wellbeing as a result.

Keywords // Allergy, ImmunoCAP, Phadja, hormones, aging, oriental, sublingual, allergy drops

FPR02 // RHINOLOGY // Rhinology Anterior skull base
Treatment for the orbital injury following endoscopic sinus surgery
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Head & Neck Center, Seirei Hamamatsu General Hospital

Recent years, endoscopic sinus surgery with powered cutting instrument (powered ESS) is one of the most commonly performed procedures in otolaryngology. It has been developed and improved, however, powered ESS can cause greater complications than traditional sinus surgery. Severe cases have been increasing in these days, but many otorhinolaryngologists do not understand this. In our hospital, Ophthalmologist, Oculoplastic surgeon, and Otorhinolaryngologist performed for iatrogenic orbital injury, simultaneously together. For the purpose of the enlightenment of the complication which has been happened, we describe concrete treatment of our strategy through some cases.

Keywords // Endoscopic sinus surgery, iatrogenic orbital injury, Complication, Diplopia

FPR03 // RHINOLOGY // Rhinology Anterior skull base
A Randomized Controlled Trial comparing the efficacy of low-dose amitriptyline, amitriptyline with pindolol and placebo in the treatment of chronic tension-type facial pain
Adrian Mark Agius, Nicholas Spencer Jones, Richard Muscat (Malte)
University of Malta

Patients often present to otorhinolaryngologists with chronic facial pain with normal nasal endoscopy and sinus CT; this is recognized to be of neurological origin. Objectives: The purpose of this study was to determine whether low-dose amitriptyline reduces pain scores compared to placebo in patients with chronic, tension-type mid-facial segmental pain. It also sought to determine whether the addition of pindolol, a beta blocker with serotonin receptor blocking properties hastens the onset of action or improves the efficacy of amitriptyline. A secondary outcome measure was to determine whether amitriptyline or amitriptyline with pindolol significantly reduces analgesic consumption.

Setting: A busy otolaryngological practice on a small Mediterranean island.

Method 62 patients were randomized to three treatment groups (a) amitriptyline 10mg daily (b) amitriptyline 10mg daily with pindolol 5mg twice daily and (c) loradatine 10mg daily and recorded daily pain scores using a facial pain diary over eight weeks.

Results At 8 weeks, frequency and intensity were significantly reduced in patients treated with amitriptyline compared to placebo (p=0.0005 and 0.039 respectively, t test) or amitriptyline with pindolol compared to placebo (p=4.35x10^-5 and p=0.023 respectively, t test). Patients having the combination therapy showed significantly improved clinical outcome and significantly reduced analgesic intake compared to those having amitriptyline alone (p=0.009, chi squared test).

Keywords // chronic facial pain, tension-type headache, tension-type facial pain, amitriptyline, pindolol, randomized controlled study, sinus pain

FPR04 // RHINOLOGY // Paediatric ORL
Juvenile aggressive cemento-ossifying fibroma of sphenoid sinus presenting with proptosis
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Kasturba Medical College Manipal

The term fibro-osseous lesion has currently grown in popularity as an overall designation for a number of rare histologically benign head and neck lesions that are made up of bone, fibrous tissue and cementum. Cemento-ossifying fibroma is a variant of cementifying fibroma and are usually small innocuous lesions which follow a benign course. It is rare for these tumors to attain large size, behave aggressively, destroy bone and require a radical surgery.

We report a series of cases of juvenile aggressive cemento-ossifying fibroma of the sphenoid sinus which presented with proptosis and discuss its management.

Keywords // proptosis, cemento-ossifying fibroma

FPR05 // RHINOLOGY // Rhinology Anterior skull base
Prolonged epistaxis in pregnancy: a case report and review of the management of obstetric epistaxis
Dr Kiran Varadharajan, Dr Katie Cornthwaite, Mr Manuel Oyarzabal, Miss Helen Watson and Mr Rahul Kanegaonkar (United Kingdom)
Medway Maritime Hospital

Objectives: Life threatening epistaxis in pregnancy is rare, thus there are no specific evidence-based guidelines to guide management in these patients. We report a case of life threatening epistaxis in a pregnant patient, describe the links between epistaxis and pregnancy and review its management.

Case Report: A 31-year old primigravida presented with severe epistaxis in the second trimester. With failure of conservative measures the patient required surgical intervention.

Conclusion: This case highlights the important of multidisciplinary input from otolaryngologists, obstetricians and haematologists when managing severe epistaxis in pregnancy. Additionally there are several surgical challenges presented by obstetric epistaxis, namely the inability to use topical nasal preparations in pregnant patients.

Keywords // Epistaxis, Pregnancy, HELLP Syndrome

FPR06 // RHINOLOGY // Rhinology Anterior skull base
Postoperative improvement in acoustic rhinometry measurements after septoplasty correlates with long term satisfaction
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Department of Otorhinolaryngology, Head & Neck Surgery and Audiology, Rigshospitalet

Summary
Background: Not much is known about long-term satisfaction of septoplasty. Our goal was to compare pre- and postoperative acoustic rhinometry measurements with satisfaction 11 years after surgery.

Methodology: Acoustic rhinometry measurements were performed preoperatively and 3 months postoperatively. Satisfaction was evaluated with semi-structured interviews by telephone 11 years after surgery. Symptoms were evaluated using the NOSE score.

Results: In total, 222 patients were interviewed and eligible to enter the study. Of these, 213 had preoperative acoustic rhinometry and 159 had postoperative acoustic rhinometry measurements with satisfaction. In total, 157 patients had a complete data set. Mean follow-up time was 11.3 years. Patients satisfied with surgery had a bigger improvement in total minimum cross-sectional area before decongestion and total nasal cavity volume after decongestion. NOSE scores were not correlated with acoustic rhinometry measurements.
Conclusion: Acoustic rhinometry could be a valuable tool for evaluating the results of septoplasty. Satisfaction at 11 years followup was associated with 3 months postoperative acoustic rhinometry improvements. Acoustic rhinometry did not show preoperative patient selection potential.

Keywords // Nasal obstruction, Septoplasty, Patient satisfaction, Acoustic rhinometry

FPR07 // RHINOLOGY // Rhinology Anterior skull base
High-frequency surgical devices in the surgical treatment of skull base tumors
Abdurkerimov Khvir Tagirovich, Abdurkerimov Zamir Khvirirovich, Kartashova Ksenia Igorevna (Russia)
Ural State Medical Academ

Despite the introduction of advanced technologies in medicine, surgery of juvenile angiofibroma of the skull base is an actual problem in otorhinolaryngology.

We observed 36 patients with juvenile angiofibroma of the skull base. The patients’ age from 8 to 22 years. Based on the results clinical research, we determined the location of the tumor, growth, stage of development, the degree of destruction of the skull bones, the type and source of the blood supply.

Through the use of optics, improved tools and radio wave surgical devices, we abandoned the facial cuts. The intervention was carried out with pre-occlusion of the vessel supplying the tumor. Approach to the tumor was carried out trans-maxillary-buccal access. Malacotomy carried out under the lip using a high-frequency surgical device "Fotek E80M" (Russia, Ekaterinburg).

We dissected the maxillary sinus with the removal of the medial and anterior walls, and partially resected frontal process of the maxilla and nasal bone. To approach directly to the tumor, we used radioknife and dissected mucosa of the lateral wall of the nasal cavity. After removal of the tumor, the wound surface was treated reinforced with argon coagulation (apparatus "Fotek EA141" (Russia, Ekaterinburg). During the operation necessarily used endoscopic equipment.

All patients were discharged home, recurrent tumors in 3 patients, death was not. Periods of observation over 7 years.

Keywords // angiofibroma, radio wave surgical devices, argon coagulation

FPR08 // RHINOLOGY // Rhinology Anterior skull base
Comparison of the influence of transeptal quilting suture and two types of nasal packing on postoperative recovery in patients following septoplasty
David Debevc, Ivan Zeković, Miha Žargi, Bogdan Ćizmarević, Boštjan Lanišnik, Mirolav Polfj (Slovenia)
University Clinical Centre Maribor, Department of ENT and Maxillofacial surgery

Background: In our study, we compared the two most commonly used nasal tamponades and transeptal quilting suture in patients with septoplasty.

Subjects and methods: Our study was randomized and prospective. 101 patients met eligibility criteria. (Group 1 - patients with transeptal quilting suture, group 2 - finger stall tamponade, group 3 "merocel". Postoperatively we assessed pain, pressure in the nasal cavity, insomnia and patients’ general well - being with VAS. We also recorded the amount of painkillers used by the patients. We assessed the level of nasal congestion and the amount of crusting in the nose. We monitored elevated body temperature and took blood samples to determine CRP and white cell count value. Patients determined the day when they first perceived odors and could breathe through their nose again most of the day. We also monitored patients for early and late complications. A pre "" and postoperative assessment was made using SNQ "" 22.

Results: Patients in group 1 had lower combined score for pain, pressure in the nasal cavity, insomnia and their general well "" being for the first two days. The lowest consumption of analgesics was in group 1. The time period for recovery of odor sensing and satisfactory nasal breathing was shorter in group 1. Nasal congestion was comparable within groups. Patients in group 1 had significantly less crusting.

Conclusion: We noticed that transeptal suturing causes less complaints and in some aspects a faster recovery.

Keywords // septoplasty, transeptal suturing, nasal packing, recovery from septoplasty

FPR09 // RHINOLOGY // Rhinology Anterior skull base
Transnasal Endoscopic Surgery of the Orbit and Orbital Apex
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Cairo University.

The orbit and the sinonasal area have intimate relations. Lesions in both areas may extend to the other and surgical intervention of any may harm the other. The aim of this study is to demonstrate the indications and limitations of utilizing the transnasal endoscopic approach in handling orbital and sino-orbital lesions.

The transnasal endoscopic approach was utilized in handling different sinonasal lesions extending to the orbit including; orbital complications of acute bacterial sinusitis, frontoethmoidal mucocles and pyoceles, fungal sinusitis, sinonasal tumors, blowout fractures & gun shots. Moreover, lesions arising in the orbit and extending to the nose including; thyroid orbitopathy, orbital tumors, Dacrocystitis, intra-orbital abscesses and cysts, biopsy from orbital tumors, orbital decompression and optic canal decompression were also handled via the transnasal approach.

The transnasal endoscopic approach is the most direct with no facial scar and usually one day case. It is effective in most of orbital and sino-orbital lesions. Limitations of the approach should be considered.

Co-work between Rhinologists and Ophthalmologists is mandatory for better care of patients with such lesions. The transnasal endoscopic approach is the most direct, but it carries the risk of possible complications. One should be ready for external approach in case of failure to achieve good exposure and/or complete excision of the orbital lesions.

Keywords // Transnasal, Endoscopic, Orbit, Sino-orbital, Decompression

FPR10 // RHINOLOGY // Rhinology Anterior skull base
Sinonasal Manifestations of Sarcoidosis: A Single Institution Experience with 38 Cases
Mohammad O Aloulah, R. Peter Manes, MD, Yuk Hui Ng, MBBS, John E. Fitzgerald, MD, Craig S. Glazer, MD, Matthew W. Ryan, MD, Bradley F. Marple, MD, Pete S. Batro, MD, FACS (Swiss)
University of bern. King Abdulaziz University hospital.

Introduction: Sarcoidosis is a chronic disease process characterized by non-caseating granulomatous inflammation. Given the rarity of rhinologic involvement, the objectives of the present study were: (1) to describe clinical features; and (2) to review outcomes of rhinologic surgery for sinonasal sarcoidosis.

Methods: Retrospective analysis was performed of 113 patients evaluated at a tertiary care referral center between January 2006 and July 2011.

Results: The most common presenting symptoms included nasal obstruction (65.8%), crusting (29.9%), and epistaxis (18.4%). Most frequent endoscopic findings included crusting (55.3%), mucosal thickening (44.7%), and subcutaneous nodules (21%). CT imaging demonstrated turbinate or septal nodularity (21%), osteoneogenesis (15.8%), and bone erosion (10.5%). Medical management was typically comprised of saline irrigations (73.3%), topical nasal steroids (68.4%), and oral steroids (63.2%). Refractory sinus symptoms required sinonasal surgery in 4 cases. Overall symptom improvement was noted in 39.5%.

Conclusion: Sinonasal involvement was noted in approximately 30% of patients with known sarcoidosis evaluated in the otolaryngology clinic. Patients typically present with nasal obstruction and endoscopic evidence of crusting and mucosal thickening. Medical therapy with irrigations and topical/oral steroids suffices in majority of patients, with surgery for refractory symptoms being required in a small subset of cases.

Keywords // sarcoidosis, granulomatous disease, sinonasal, chronic sinusitis

FPR13 // RHINOLOGY // Rhinology Anterior skull base
Endoscopic orbital decompression, can we save vision?
Nassim Ghobrial, sherif Safwat,Fady Ghareb, Nader Nagueb (Egypt)

Conclusion: The orbit and the sinonasal area have intimate relations. Lesions in both areas may extend to the other and surgical intervention of any may harm the other. The aim of this study is to demonstrate the indications and limitations of utilizing the transnasal endoscopic approach in handling orbital and sino-orbital lesions.

The transnasal endoscopic approach was utilized in handling different sinonasal lesions extending to the orbit including; orbital complications of acute bacterial sinusitis, frontoethmoidal mucocles and pyoceles, fungal sinusitis, sinonasal tumors, blowout fractures & gun shots. Moreover, lesions arising in the orbit and extending to the nose including; thyroid orbitopathy, orbital tumors, Dacrocystitis, intra-orbital abscesses and cysts, biopsy from orbital tumors, orbital decompression and optic canal decompression were also handled via the transnasal approach.

The transnasal endoscopic approach is the most direct with no facial scar and usually one day case. It is effective in most of orbital and sino-orbital lesions. Limitations of the approach should be considered.

Co-work between Rhinologists and Ophthalmologists is mandatory for better care of patients with such lesions. The transnasal endoscopic approach is the most direct, but it carries the risk of possible complications. One should be ready for external approach in case of failure to achieve good exposure and/or complete excision of the orbital lesions.

Keywords // Transnasal, Endoscopic, Orbit, Sino-orbital, Decompression

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FPR13 // RHINOLOGY // Rhinology Anterior skull base
Endoscopic orbital decompression, can we save vision?
Nassim Ghobrial, sherif Safwat,Fady Ghareb, Nader Nagueb (Egypt)
Orbital complications represent serious and sometimes catastrophic sequelae to acute bacterial rhinosinusitis; affection has a wide range from just lid edema up to total loss of vision and cavernous sinus thrombosis that may endanger lives. Good judgment and rapid interference are mandatory as irreversible optic atrophy may occurs within 48 hours, usually repeated ophthalmological examination and radiology are needed to decide type and time of management. This talk represents 41 cases with orbital complications secondary to acute bacterial rhinosinusitis treated in the last 6 years, the talk aims at proposing a standardized protocol for management of these cases, including diagnosis, differential diagnosis, and treatment, with special emphasis on surgical decompensation of the orbit and optic nerve.

Keywords // Orbital Complications, Rhinosinusitis

FPR14 // RHINOLOGY // Rhinology Anterior skull base Role of Narrow Band Imaging endoscopy in Wegener’s granulomatosis: early experience. Pilolfi F, Lira Luce F, Trinchari M (Italy) San Raffaele Hospital Milan Italy

Objective: Narrow band imaging (NBI) is an endoscopic technique enhancing the mucosal vascular pattern. Its utility in Wegener’s granulomatosis (WG), a form of vasculitis that affects small- and medium-sized vessels, has not been investigated.

Methods: we analyzed the vascular mucosal pattern of the upper aerodigestive tract, using NBI endoscopy, in 10 healthy people, in 4 patients with nasal or clinical conditions suggestive for WG, and in 4 patients affected by confirmed WG.

Results: healthy mucosa is characterized by low density and a homogeneous vascular pattern. We identified anomalous patterns in the nasal mucosa of 4 patients. These vascular anomalies were located in the middle turbinates and nasal floor, and included arborizations, vascular islands and rosary beads vessels. Regarding the 5 patients who underwent nasal biopsy, there was perfect correlation between NBI patterns and definitive histologies. The 3 with nasal biopsy diagnostic for WG had an abnormal pattern, and the 2 patients with negative biopsy had a normal NBI aspect (sensibility 100%, specificity 100%).

Conclusions: using NBI endoscopy we demonstrated newly, never previously described, anomalous vascular patterns in the nasal mucosa of WG patients. NBI has the potential to substitute nasal biopsy in diagnostic criteria for WG. Subsequent studies enrolling a larger number of patients could confirm or reject this hypothesis.

Keywords // Narrow band imaging, endoscopy, Wegener, granulomatosis with polyangiitis, vasculitis

FPR15 // RHINOLOGY // Rhinology Anterior skull base

Endonasal endoscopic approach to the orbit (EEAO) Alexandre Karkas, Philip Theodossopoulos, Jeffrey Keller, Lee Zimmer (France) University Hospital of Grenoble and University Hospital of Cincinnati/Ohio

Objectives: Describe endoscopic anatomy of medial & inferior orbital walls & present 5 illustrative clinical cases. Methods: 2 vessel-injected cadavers (4 sides) underwent endonasal transthyroid-sphenoid-maxillary approach. Results: Total ethmoidectomy & maxillary antrostomy are performed. Maxillary sinus roof is removed until infraorbital canal laterally. Lamina papryacea is removed. Transnasal & transthyroidal sphenoidotomy are made. Periorbita is incised along medial & inferior orbital walls. Cavernoous carotid is exposed & medialized to show oculomotor (III), trochlear (IV), ophthalmic (V1), maxillary (V2) & abducens (VI) nerves in cavernous sinus. In supralateral wall of sphenoid sinus, ophtocarotid recess is visualized with optic nerve (ON) & ophthalmic artery (OA). Anteriorly, annulus tendineus of Zinn (ATZ) is incised, showing insertion of superior, medial & inferior rectus muscles with nerve III & its branches. ON, nasociliary branch of V1, VI & OA also enter ATZ. Superior & inferior oblique muscles are outside ATZ. Anterior limit is eye globe. 5 clinical cases of EEOA will be presented. Discussion: EEAO is ideal for inferior & medial lesions of orbit. Contrary to craniotomies, EEOA exposes ON without removing orbital roof & anterior clinoid. Contrary to orbitotomies, EEOA provides excellent visualization with angled endoscopes. Limits are lesions of superior or lateral part of orbit or lesions that need manipulation of ON or section of medial rectus muscle.

Keywords // orbit, endoscopic endonasal, periorbital, carotid

FPR16 // RHINOLOGY // Rhinology Anterior skull base

Versatility of the nasoseptal pedicled flap in anterior skull base reconstruction Tom Ashfield, Rennie C, Taghi A, Mendoza N, Grant WE. (United Kingdom) Centre for Skull Base Surgery, Charing Cross Hospital, London

Introduction: The introduction of the pedicled vascularised nasoseptal flap has allowed virtual elimination of CSF leaks post endoscopic trans-planum sphenoidale surgery in an initial experience of 9 meningiomas. Its use has been extended to address reconstruction following resection of further pathologies, and also to its use in the closure of spontaneous and post-surgical persistent CSF leaks in the anterior skull base and orbit, as well as an oro-nasal fistula. Methods Retrospective audit of all patients undergoing NSF reconstruction since its introduction in 2009. Results 21 patients have been managed with NSF closure since September 2009. Primary pathologies treated have included meningiomas, craniofaviangioma, clivus chordoma, haemangiopericytoma, and pituitary. 2 patients with extensive pneumoencephalus due to large (≥1 cm) anterior skull base defects post craniotomy and orbital exenteration had successful closure. A spontaneous CSF leak in the anterior ethmoid, and an oor-antral fistula persisting post resection of a nasopatilatine cyst were also closed successfully. No CSF leaks or other local complications have been reported in any of these patients to date. Conclusions The NSF is a versatile and robust flap whose reconstructive applications can be extended to address larger anterior skull base and orbital defects.

Keywords // Nasoseptal flap, Haddad-Bassagastegui flap, CSF leak, anterior skull base defects

FPR17 // RHINOLOGY // Rhinology Anterior skull base Nasal polyposis: what are patients’ complaints before and after surgery? Duc Trung NGUYEN, H Elueque, F Guillemin, R Jankowski (France) CHU de Nancy

Background: Nasal polyposis (NP) is a chronic sinonasal disease which impacts on the quality of life (QoL). The aims of this study were: 1) to describe the symptoms of patients with NP together with both their physical and psychosocial impacts; 2) to assess the QoL outcomes after the surgical treatment of NP. Methods: Eighty-one NP-patients who were candidate for surgery were included in this prospective study. Patients were evaluated for sinonasal symptoms as well as physical and psychosocial impacts of each symptom by the DyNaChron QoL questionnaire. Each item ranges from 0 meaning no discomfort to 10 meaning unbearable discomfort. Assessments were performed 1 day prior to surgery and 6 weeks and 7 months after surgery. Results: Before surgery, the sense of smell disorder was the most frequent complaint with the highest score (7.72), followed by nasal obstruction (6.81), posterior discharge (5.24), anterior rhinorrea (4.83), pain (3.95) and cough (3.25). The olfactory disorder was associated to a high physical impact score whereas the nasal obstruction and anterior rhinorrea caused a high psychosocial impact score. Statistically significant improvements at weeks 6 and 7 months after surgery were found for all symptoms as well as for physical and psychosocial scores in comparison to pre-operative scores (p

Keywords // Quality of life, Nasal polyposis, DyNaChron questionnaire

FPR18 // RHINOLOGY // Rhinology Anterior skull base Mono-nostril endonasal transphenoidal surgery with intact contralateral septal flap:Outcomes in large pituitary macroadenomas Ahmed Musaad Abd El-Fattah, Elsharawy Kamal, Ahmed Zaher, Ashraf Megahed, Yasser Khafagi (Egypt) Faculty of Medicine-Mansoura University

Introduction: Endoscopic endonasal transsphenoidal surgery has attained prominence as the treatment choice for pituitary region tumors. However, rhinologists must consider postoperative nasal morbidity and its impact on the quality of life. Objective: This study was conducted to evaluate outcomes of a less invasive mono-nostril endonasal transsphenoidal surgery with preservation of the contralateral septal flap in challenging pituitary large macroadenomas. Material and Methods: Thirty four patients with large (≥3cm) pituitary adenomas were treated using this less invasive direct
endonasal approach from Aug 2009 to Aug 2012. The hospital course, endocrinological function, radiographic imaging, and outpatient follow-up were retrospectively reviewed for each patient. Results: Tumor pathologies included 22 functional and 12 nonfunctional pituitary adenomas. Suprasellar extension of tumor was evident in all patients and 6 had cavernous sinus invasion. Gross total resection was achieved in 23 patients, near-total gross in 5 patients and subtotal resection in 6 patients. Eight patients (23.5%) demonstrated postoperative complications (diabetes insipidus for less than 1 year (n = 4), CSF leaks (n=2) and hydrocephalus (n=2)). There was no incidence of new panhypopituitarism or worsened vision. Conclusions: The adopted approach enables safe and effective resection of large sellar masses while maintaining a less invasive favorable nasal morbidity profile.

Keywords: pituitary adenoma, Transsphenoid, endonasal, mono-nasal

FRP19 // RHINOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Possibilities and limitations of the Orbitomy
Sven Kosielnny, Ulrich Voigt (Germany)
ENT Department UK

Tumors of the orbital space are rare, but need a high experience of the operator. It’s required a high practical experience in this kind of surgery for the selection of the best operative approach and in interdisciplinary work. Possible approaches are transmaxillary, transnasal (medial orbitotomy), transfrontal or via lateral orbitotomy. Because of the risk of tumor progress with decreasing of the vissus disorders in eye mobility this tumor should be removed. The choice of access depends on the location of the process in relation to the functional structures of the orbit, especially to the nervus opticus and eye muscles. The operations should be performed in an interdisciplinary cooperation of the ENT surgeon with the ophthalmologist. In the last 12 years we resected 46 intraorbital tumors. From this 30 cases were operated via the lateral orbitotomy, 11 via medial orbitotomy, 3 transmaxillary and 2 transfrontal. Histologically we found 9 tumors of the Glandula lacrimalis, 10 malignant lymphomas, 18 cases of inflammatory pseudotumor, 2 cases of granulomatosis and 7 other processes. No complications of operation were observed. By experiencing the part of the ophthalmologist is to mark the eye muscle on the eye bulbus for better orientation in the orbit as our “intraorbital navigation system”. By performing the skin incision in the relaxed skin tension lines under reconstruction of the orbital wall we achieve very good aesthetic results with excellent functional outcome.

Keywords: orbitotomy tumor of orbit, tumor of lacrimal gland

FRP20 // RHINOLOGY // Rhinology Anterior skull base
Combined techniques used in the surgery of the sino-nasal malignant tumors involving the skullbase.
Hainarosie Razvan, Zainea Viorel (Romania)
Institute of Phonoaudiology and Functional ENT Surgery "Prof. Dr. Dorin Hociota".
The aim: The authors present aspects from the cauty that illustrate the therapeutic approach in malignant tumors of the skull base. Material: Presentation of selected case reports that illustrate technical surgical aspects, technological aspects (use of radiofrequency) and the use of biomaterials. Method: particular case reports, foto-documentation, video-documentation. Results, conclusions: It emphasizes the obligation of respecting the onco-surgical principles in extended malignant tumors approach through combined techniques (external approach associated with endoscopic-assisted surgery in both ablative and reconstructive time of the surgery). It evokes the usefulness of anatomical and lesional guidance tools (navigation system) and minimally invasive technologies (radio-surgery and surgery with argon plasma).

Keywords: malignant tumors, “combined” techniques, anterior skullbase

FRP21 // RHINOLOGY // Plastic, aesthetic and reconstructive surgery
Orbital mucocele
Tatwani Taria, none (Saudi Arabia)
Prince Sultan Medical City
Orbital mucocele can occur when sinus mucoceles cannot naturally drain to the nose. Instead, they grow and slowly invade adjacent orbital tissues. Mucoceles could be primary or can be secondary, the most common etiologic factors are facial trauma, chronic sinus disease and tumors. Characteristically mucoceles cause typical bone expansion and thinning with subsequent disfigurement of the face and displacement of the globe. Symptoms of mucoceles include; pain, disfigurement, nasal blockage and varying ophthalmic manifestations depending on the site and size of the mucocele.

Most commonly it involves the ethmoid and frontal sinuses but can involve maxillary and spheno. Surgery is the treatment for mucoceles. The External approach used to be the gold standard but the endoscopic approach is becoming the method of choice. External approach is absolutely indicated in lateral lesions and for reconstruction.
We present case- series of 23 cases of Orbital mucoceles since 2004 to present with different modalities of treatment. We had 7 fronto ethmoid and 5 ethmoid frontal and 3 maxillary frontal and 2 sphenoid and one choanal mucocele.
Most of our cases managed endoscopic approach for marsupialization of the mucocele but also external approach was needed for reconstruction of the orbit. We also review the literature for Orbital mucoceles and their sequel.

Keywords: Orbit, cancer

FRP22 // RHINOLOGY // Rhinology Anterior skull base
Endoscopic resection of Clival tumours: Tertiary centre experience
Hiba Al-Reefy, K. Kapoor, C.Hopkins, D.Roberts, N.Thomas (United Kingdom)
Guys Hospital London

Chordomas are rare benign tumours that arise from the notochord remnant, they represent 0.1% of all skull base tumours. In addition to being rare, invasive and locally destructive these tumours are challenge to treat due to their location, ventral to the brainstem. Open skull base approach to the clivus is traditionally the mainstay for achieving gross total resection in chordoma. We present a consecutive series of patients undergoing endonasal endoscopic resection of clival chordoma in a tertiary referral centre.

10 patients underwent 13 operations. The mean patient age was 50 years. All patients underwent endoscopic resection of Clival chordoma followed by post operative proton beam therapy. 3 patients had local recurrence before receiving radiation therapy and underwent revision endonasal endoscopic resection. The mean follow-up was 24 months. There were neither intraoperative complications nor a history of CSF leak. All surviving patients remain progression free.

The endonasal tranclival approach represent a less invasive and more direct approach to treat certain moderate sized clival chordomas.

Keywords: Endoscopic resection, clival chordoma, clivai

FRP23 // RHINOLOGY // Rhinology Anterior skull base
ENDOSCOPIC ENDONASAL RESECTION OF ADENOID CYSTIC CARCINOMA: OUR EXPERIENCE FROM A SERIES OF 28 CASES.
Luca Volpi, Maria Turri-Zanoni, Maurizio Bignami, Davide Lepera, Apostolos Karligkiotis, Fabio Ferrell, Andrea Balzoni Villaret, Piero Nicolai, Paolo Castelnuovo (Italy)
Ospedale di Circolo e Fondazione Macchi

Background: The increasing expertise in the field of transnasal endoscopic surgery has recently expanded its indications to include the sinonasal malignancies. We report our experience in the management of sinonasal adenoid cystic carcinoma (ACC) through an endoscopic endonasal approach. Materials and Methods: Retrospective analysis of patients affected by sinonasal ACC, treated through an endoscopic endonasal approach from 1998 to 2012, in two Italian tertiary referral centres.

Results: The patients eligible for the present analysis were 28. The nasal fossa (46%), maxillary sinus (32%), nasal septom (15%), and sphenoid sinus (7%) were the primary tumor sites encountered. The majority of patients presented with locally advanced disease, without a systemic spreading. In 5 cases, the involvement of anterior skull base required a transnasal endoscopic craniectomy. Overall, 14/28 (50%) patients received some form of adjuvant radiotherapy. The follow-up ranges from 6 to 168 months (mean of 56 months).
The 5-year overall, disease-specific, disease-free and recurrence-free survivals were 87.5±18.98, 87.5±18.98, 67.9±11.6 and 69.4±11.5, respectively.

Conclusions: These results combined with short hospitalization time, due to a very limited morbidity typical of mini-invasive procedures, seem to indicate that endoscopic surgery, when properly planned and in expert hands, may be a valid alternative to standard surgical approaches for the management of this subset of sinonasal cancers.

Keywords: // Sinonasal cancer; endoscopic endonasal; skull base; radiotherapy

FPR24 // RHINOLOGY // Rhinology Anterior skull base QUALITY OF LIFE FOLLOWING ENDOSCOPIC ENDONASAL RESECTION OF ANTERIOR SKULL BASE CANCERS Davide Lepera, Mario Turri-Zanoni, Paolo Battaglia, Andrea Bolzoni-Villaret, Maurizio Bignami, Apostolos Karligkiotis, Luca Volpi, Piero Nicolai, Paolo Castelnovo (Italy) Ospedale di Circolo e Fondazione Macchi

Background. For several decades, the exclusive purpose in the management of anterior skull base malignancies has been to increase survival rates. Recently, more attention has been focused on the Quality of Life (QoL) as well. Producing results combined with short hospitalization time, due to a very limited morbidity typical of mini-invasive procedures, seem to indicate that endoscopic surgery, when properly planned and in expert hands, may be a valid alternative to standard surgical approaches for the management of this subset of sinonasal cancers.

Keywords: // Sinonasal cancer; endoscopic endonasal; skull base; radiotherapy

FPR25 // RHINOLOGY // Rhinology Anterior skull base Results of esthesioneuroblastoma patients treated by endoscopic surgery Mauro Becker Martins Vieira, Larissa Santos Perez Abreu, Gabriel Antonio Oliveira Dias, Elisa Meiti Ribeiro Lin Plep (Brazil) Hospital Felicio Rocho

Esthesioneuroblastoma is a rare malign nasosinusal neoplasm tumor. The traditional treatment is anterior craniofacial resection. It constitutes in a major procedure associated with significant morbidity and mortality. Trans nasal endoscopic surgery has been proposed to decrease the sequels and complication rate. Due to the small number of cases in most series, the value of this technique is hard to prove. We present our cases that were treated initially with endoscopic surgery. We had 6 patients with ages from 22 to 46 years old, average 35 years, 3 were male and 3 female. Two patients had intracrani extension and one had bilateral neck disease. All patients were submitted to endoscopic resection with planned postoperative radiation. The patient with neck metastases received also bilateral neck dissection and chemotherapy. There was one case of postoperative hypertensive pneumocerephalus that were treated with surgical revision of the skull base reconstruction. With a follow up from 1 to 5 years, 3 patients are alive without disease, one died of intracrani extension, one is alive with local recurrence, and one was intracrani extension and one had bilateral neck disease. All patients were submitted to endoscopic resection with planned postoperative radiation. The patient with neck metastases received also bilateral neck dissection and chemotherapy. There was one case of postoperative hypertensive pneumocerephalus that were treated with surgical revision of the skull base reconstruction.

Results 19 consecutive patients were studied from a 5yeaer period, with 11 males and 8 females, and a mean age of 37.8 +/- 15.4 years. This included 18 patients with typical ACPS and 1 with a rare raphenochoanal polyp. Two patients within our group were referred with recurrent ACPS for revision surgery. The mean follow up was 12.0 +/- 8.0 months, with a follow up of 24 and 12 months for the two revision cases. There were no recurrences in any of our patients.

Conclusion We describe the first series of endoscopic sinus surgery for ACPS from the UK. We have had no recurrent cases, with a mean follow up period of 12months. We review the literature in endoscopic management of adult ACPS, and describe our own surgical technique. Our approach allows complete removal of the polyp, including its site of origin using angled endoscopes and instrumentation, to minimise recurrence.

Keywords: // endochoanal polyp, endoscopic management

FPR26 // RHINOLOGY // Rhinology Anterior skull base Our experience of endoscopic treatment of 48 patients with JNA Nerseyan Marina, Kapitanov Dmitry, Lubnin Andrey, Shmingelsky Alexander, Yakovlev Sergey, Arustamyan Sergey, Bachurin Evgeny, Mickeladze Kethy (Russia (Russian Federation)) The Burdenko Neurosurgery Institute

We proposed to share our experience of endoscopic treatment of 48 patients with juvenile nasal angiofibroma.

All the patients were males, of the age 9 - 26 years old (with the mean 16 years old) had been operated the Burdenko Neurosurgery Institute during the past 7 years.

Most of the patients N=32 had previous surgeries at other clinics and came to us with relapsed JNA. All of them had previous embolization or External Carotid Artery suture, 9 - radiotherapy. Intraoperative bleeding in this group of patients was significantly higher.

JNA is successfully treated with endoscopic approach even in patients with relapsed and 3A JNA as it is an effective, less traumatic method with a good surgical outcomes. However, preoperative embolization, intraoperative blood safe methods, such as isovolemic hemodilution, Cell-saver autoblood reinfusion have to be used for these surgeries, with higher risk of severe bleeding.

Therefore work in a team: Neurologists, Anesthesiologists, Endovascular Neurosurgeons and experienced Rhinologists is necessary for getting the better results in treatment of relapsed, and /or bigger stages of JNA.

Keywords: // Juvenile nasal angiofibroma, endoscopic resection of JNA, blood saving methods

FPR27 // RHINOLOGY // Rhinology Anterior skull base Endoscopic management of Antrochoanal polyps: a single UK centre experience Natasha Choudhury, Ahmad Hariri and Hesham Saleh (United Kingdom) Charing Cross Hospital, Imperial College NHS Trust

Background Antrochoanal polyps (ACP) are benign lesions originating from maxillary sinus mucosa, and extend into the nasal cavity and choana. They are typically solitary and unilateral, and rarely arise from other sinus groups. Their treatment is surgical, with a variety of approaches reported. We describe the first case series of ACPS from the UK, along with our endoscopic technique.

Materials and Methods A retrospective review of adult patients with ACPS managed under our care was conducted. Demographic and clinical patient data were reviewed. The main outcome parameter measured was signs of recurrence.

Results 19 consecutive patients were studied from a 5year period, with 11 males and 8 females, and a mean age of 37.8 +/- 15.4 years. This included 18 patients with typical ACPS and 1 with a rare raphenochoanal polyp. Two patients within our group were referred with recurrent ACPS for revision surgery. The mean follow up was 12.0 +/- 8.0 months, with a follow up of 24 and 12 months for the two revision cases. There were no recurrences in any of our patients.

Conclusion We describe the first series of endoscopic sinus surgery for ACPS from the UK. We have had no recurrent cases, with a mean follow up period of 12months. We review the literature in endoscopic management of adult ACPS, and describe our own surgical technique. Our approach allows complete removal of the polyp, including its site of origin using angled endoscopes and instrumentation, to minimise recurrence.

Keywords: // antrochoanal polyp, endoscopic management

Keywords: // Esthesioneuroblastoma, endoscopic surgery, skull base

Keywords: // Sinonasal cancer; endoscopic endonasal; quality of life; skull base

Keywords: // Onychosomatodermal inclusion cyst; endoscopic endonasal; skull base;

Keywords: // antrochoanal polyp, endoscopic management

Keywords: // Endoscopic treatment of sinonasal tumors; skull base;

Keywords: // Sinonasal cancer; endoscopic endonasal; surgery, skull base;
E-POSTERS
Role of Immunoglobuline E and Gastro-esophageal Reflux disease in development of Otitis Media with effusion
Mohammed A. Gomaa, Abdel Rahim A. Abd Elkarian, Yasser Elsherbeny (Egypt)
Minia University

Introduction: The role of allergy and gastroesophageal reflux disease in chronic otitis media with effusion (OME) is controversial.

Risk Of Acute Otitis Media In Relation To Acute Bronchiolitis In Children
Mohammed A. Gomaa, Usama E. Gaal, Mahmoud S. Mahmoud (Egypt)
Minia University

Objective: A prospective study that done at Otorhinolaryngology department. Our study was done on the 43 cases, 30 patients with OME with mean age 6.8 years and 13 control child with mean age 8.3 years. Blood sample taken from patients and control children for assay of total Immunoglobuline E (IgE) and serum pepsinogen 1 (PG1). Effusion fluid samples were taken from middle ear effusion of the patients during myringotomy and ventilation tube insertion, IgE and PG1 were assayed in the effusion samples. Total IgE and PG1 were assayed by enzyme-linked immunosorbent assay.

Results: There is a correlation between serum IgE and Effusion IgE in the patients group as P=0.02 The mean value of serum IgE in the studied patients was 315 IU/ml, while the mean value of serum IgE in the control group was 153.5 IU/ml. Our results showed that, negative significant correlation between PG1 in the effusion and serum of the studied patients as P=0.001 there is no correlation between the levels of IgE and PG1 in the effusion of the studied patients as P=0.12.

Conclusion: Allergy is a possible risk factor for development of OME. The level of PG1 in the effusion is one tenth its level in the serum of the patients.

Preoperative antiseptic preparation of the nasopharynx as a surgical field for adenoidectomy
Yuri Rusetskii, Tatyana Sedykh, Nadezda Martynova (Russia)
Sechenov First Moscow State Medical University

Introduction. Antisepsis preparation of surgical site during endoscopic adenotony has been ignored up to date.

Endoscopic arytenoid ablation lateropexy for the treatment of bilateral vocal cord immobility pediatric application
Balazs, Szatno, Laszlo Szakacs, Shahrom Madani, Adam Bach, Zsolt Bere, Laszlo Rovd (Hungary)
University of Szeged, Department of Otorhinolaryngology Head and Neck Surgery

Objective: to study microbiological effectiveness of antiseptic washing of surgical site and antibacterial protection of surgical wound during endoscopic adenotony.

Materials and methods. 173 children with adenoids were observed during the research. Patients of the basic group (90 children) had antiseptic washing of surgical site and surgical wound of nasopharynx using 0.02% chlorhexidine bigluconas with endoscope control. The biopsy was made three times: before the washing, after it and after the operation. Children of the control group (83 children) were not given the antiseptic washing of the surgical site and biopsy was made before the operation and after it.

Results. 90 children of the basic group had 140 strains (15 species) of bacteria with the content 103 “<” 108 before the washing. After the antiseptic washing of the surgical site there were 97 bacteria (11 species) with the content 103 “<” 106. 41 strains of bacteria (7 species) with concentration 102 “<” 104 were found in the surgical wound after the second antiseptic washing so bacterial content decreased by 70.7 %. 83 patients of the control group had 131 strains (13 species) with bacterial content 103 “<” 107 DS/DID on the surface of the mucous membrane pharyngeal tonsil, and after the operation 168 strains (16 species) with concentration 105 “<” 108 DS/DID were found so bacterial content decreased by 28.2%.
This finding gives evidence for diffusion of cerebrospinal fluid or perilymphatic but lower as in cerebrospinal fluid (18.4 mg/l) or perilymphatic fluid (23.5 mg/l).

In human middle ear secretions, the beta-trace protein concentration was found and in 1/63 were beyond with 18.3 mg/l. Median beta-trace protein value in 3/63 samples beta-trace protein values were below the detection range (<0.2 mg/l) and in 63/93 samples (51 subjects, median age 3 years) were analyzed for beta-trace protein using immunonephelometry. In 3/63 samples beta-trace protein values were below the detection range (<0.2 mg/l) and in 1/63 were beyond with 18.3 mg/l. Median beta-trace protein value for 59 samples within the measuring range was 2.4 mg/l.

In human middle ear secretions, the beta-trace protein concentration was found higher compared to serum (0.59 mg/l) or mucosal secretion (0.033~0.12 mg/l) but lower as in cerebrospinal fluid (18.4 mg/l) or perilymphatic fluid (23.5 mg/l). This finding gives evidence for diffusion of cerebrospinal fluid - or perilymphatic fluid - into the middle ear cavity from the intracranial space on the condition of otitis media with effusion. The concentration of beta-trace might be a parameter for the intactness of the brain / middle ear barrier.

Keywords // otitis media, inflammation, CSF, perilymph

Beta-trace protein in pediatric otitis media with effusion
Gregor Bachmann-Haraldstad, Ralf Müller, Olaf Michel (Norway)
Akershus University Hospital

The middle ear cavity connects by clefts and membranes to the inner ear and subarachnoid space. In order to gain more insight about the permeability between the two compartments we quantified the concentration of beta-trace-protein in middle ear secretions from children with otitis media with effusion. Ninety three samples from secretory otitis media were collected during myringotomy or explorative tympanotomy. Samples with high viscosity were pre-diluted 1:1 with tyloxapol. Thirty glue-like samples of 93 were not applicable for nephelometry even after pre-dilution. 63/93 samples (51 subjects, median age 3 years) were analyzed for beta-trace protein using immunonephelometry. In 3/63 samples beta-trace protein values were below the detection range (<0.2 mg/l) and in 1/63 were beyond with 18.3 mg/l. Median beta-trace protein value for 59 samples within the measuring range was 2.4 mg/l.

In human middle ear secretions, the beta-trace protein concentration was found higher compared to serum (0.59 mg/l) or mucosal secretion (0.033~0.12 mg/l) but lower as in cerebrospinal fluid (18.4 mg/l) or perilymphatic fluid (23.5 mg/l). This finding gives evidence for diffusion of cerebrospinal fluid - or perilymphatic fluid - into the middle ear cavity from the intracranial space on the condition of otitis media with effusion. The concentration of beta-trace might be a parameter for the intactness of the brain / middle ear barrier.

Keywords // otitis media, inflammation, CSF, perilymph

Expression of Platelet-activating Factor Receptor and Nitric Oxide Synthases in Hypertrophied Adenoids accompanying Allergic Rhinitis or Chronic Sinusitis
HYUN JUNG, Seong Kook Park (South corea)
Department of Otorhinolaryngology-Head and Neck Surgery, Inje University, College of Medicine, Busan Paik Hospital

Background: Adenoid hypertrophy is suspected to be one of the reasons for allergic rhinitis (AR) or chronic sinusitis children. However, the role of adenoids in AR or chronic sinusitis is not completely understood. The authors investigated the expression of platelet-activating factor (PAF) receptor, inducible nitric oxide synthase (iNOS), and endothelial nitric oxide synthase (eNOS) in hypertrophied adenoids of children with these diseases to evaluate the potential role of the adenoid hypertrophy. Methods: 10 patients with AR, 10 patients with sinusitis, and 10 patients with AR and AH were enrolled in this study. Hypertrophied adenoid tissues were harvested through an adenoidectomy. Expression of PAF receptor, eNOS, and iNOS in the adenoid tissue were assessed with real time PCR and Western blotting. Results: AR was the only statistically significant variable on eNOS protein and mRNA expression (p=0.009, p=0.026, respectively), and AR (p=0.000, p=0.10, respectively) and sinusitis (p=0.052, p=0.001, respectively) were statistically significant variables on iNOS protein and mRNA expression. Conclusion: This study shows that expression of eNOS and iNOS was altered in hypertrophied adenoids of children with AR, and iNOS originating from hypertrophied adenoid was elevated in children with sinusitis. The authors suggest that hypertrophied adenoids of children could be one of factors to contribute AR and chronic sinusitis via nitric oxide overexpression.

Keywords // Adenoid, Platelet-activating Factor Receptor, Nitric Oxide Synthases, Allergic rhinitis, Chronic sinusitis

The Psychological effects of Hearing Aid use in Children
Ali Qureshi, G Garas, A Mallick, T Maggs, M Warrenlow, D Parker (United Kingdom)
Royal Derby Hospital

Aims: Otitis media with effusion (OME) in children is treated using grommets or hearing aids (HA’s). Parents considering treatment options express concerns regarding the psychosocial impact of hearing aids in terms of self esteem and bullying. Our study compared the perceived psychosocial impact of HA’s in HA and non-HA using children.

Methods: A prospective case controlled study was undertaken comparing hearing aid users to non-aid users with regards to their attitude towards hearing aids. A modified version of the ‘attitudes towards hearing loss questionnaire’ was utilised. Participants were aged under 16, without disability, attending mainstream school and diagnosed with OME.

Results: A total of 47 children with aids and 52 with grommets were included.

Keywords // Otitis media with effusion, hearing aids

Post grommet insertion complications in Wales
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Introduction: Grommet insertion is a gold standard treatment for Otitis Media with effusion (OME) in the UK. Although the surgery is considered safe, problems can occur including otorrhoea and perforation. Current literature reports rates of 26% and 4.8% for otorrhoea and perforation respectively.

Aim: To ascertain the level of post grommet complications in a teaching hospital in Wales against reported rates.

Method: A retrospective study was undertaken to assess the rate of post grommet complications. Data were extracted for patient demographics, reason for grommet insertion and presence of post-operative complications. Data were assessed for factors associated with complications and examined against published complication rates.

Results: 335 episodes of grommet insertion were identified over the 27-month study period. Otorrhoea occurred in 31% of patients (CI 26-36) and perforation in 1.8% (CI 0.4-3.2). Grommets inserted for recurrent AOM were more likely to have associated complications than those inserted for OME (p < 0.05). Regression analysis reveals that the rate of post-operative otorrhoea reduces with age (R = 0.74, p < 0.01). Perforation rate was not related to age.

Conclusion: Complication rates for grommet surgery in Wales are similar to published data. Complication rates may be related to the indication for placement and to patient demographics. Additional research is required to further assess these findings.

Keywords // Complication, Perforation, Otorrhoea, Tympanostomy tube, Grommet

ENT manifestations in Stickler Syndrome
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"Marie Sklodowska Curie” Emergency Children Hospital Bucharest

The authors presents a child diagnosed with conductive hearing loss and recurrent serous otitis, whose careful exploration revealed characteristic features of Stickler syndrome.

Clinical appearance of the patient is presented in detail and compared with literature data on the disease.

Keywords // Stickler syndrome, hearing loss

MANAGEMENT OF A CHILD WITH STRIDOR AND CEREBRAL PALSY *** CASE REPORT

Keywords // Adenoid, Platelet-activating Factor Receptor, Nitric Oxide Synthases, Allergic rhinitis, Chronic sinusitis
Sandra Agostinho, Joana Deus, Marco Alveirinho Simão, Luis Almeida Dores, Ana Rita Santos, Oscar Dias, Márcia Andrea (Portugal)
Hospital Santa Maria

Laryngomalacia is the most common congenital laryngeal anomaly and the principal cause of stridor in children under 6 months. The diagnosis is confirmed by flexible fiberoptic laryngoscopy in an awake infant. The common findings are prolapso of redundant arytenoid mucosa during inspiration, short aryepiglottic folds and a tubular-shaped epiglottis. Though most infants have mild symptoms and a benign disease course which resolves by the age of 18 to 24 months, the ones with severe disease will probably need surgical management with supraglottoplasty, often preventing the need of tracheostomy. The authors present a case of a 7-year-old child with history of cerebral palsy who presented with stridor within the first few weeks of life and was diagnosed a severe pharyngolaryngotracheomalacia. The flexible fiberoptic laryngoscopy revealed a left septal deviation and an inspiratory collapse of the supraglottic structures mainly due to redundant arytenoid mucosa. Additionally, he had Gastroesophageal Reflux Disease and Obstructive Sleep Apnea Syndrome with significant nocturnal desaturations, first managed with Auto-CPAP and later with BPAP. It was proposed elsewhere to place a tracheostomy, however this would preclude the child’s physical rehabilitation in aquatic environment. We proposed septoplasty and CO2 laser supraglottoplasty, taking into account the neurological condition. The post-operative period was uneventful and the child was extubated 24h after the procedure.

Keywords // Laryngomalacia, Supraglottoplasty

PC14 // PEDIATRY // Paediatric ORL
EVALUATING THE UTILITY OF OVERNIGHT PULSE OXIMETRY IN THE DIAGNOSIS OF PAEDIATRIC OBSTRUCTIVE SLEEP APNEA
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Obstructive Sleep Apnoea (OSA) in children presents a challenging diagnostic problem. Given the long waiting times for polysomnography and the risk of morbidity from untreated OSA, the alternative of overnight pulse oximetry was sought. The aim of this study was to analyse the effects of pulse oximetry on surgical management in suspected cases of OSA. Retrospective evaluation of paediatric patients referred for overnight pulse oximetry between August 2011- June 2012 with analysis using the McGill Oximetry Score was undertaken. Results: 47 children (median age 4 years) were referred for overnight pulse oximetry. 25 patients had normal oximetry, 2 patients did not attend their study, 11 patients had mild OSA with a mean minimum dip in oxygen saturation (min dip SpO2) of 80.2% +/- 1.8% of which 9 underwent adenotonsillectomy after a median of 104 days (IQR 78.5-126), 4 patients had moderate OSA with mean min dip SpO2 78.0% +/- 0.9% of which 3 underwent surgery after a median of 56 days (IQR 33-164.5), 5 patients had severe OSA with mean min dip SpO2 60.6% +/- 5.7% (ANOVA p=0.001) of which 4 underwent surgery after a median time of 42 days (IQR 35.25% -52.75, ANOVA p=0.04). Pulse oximetry shows benefits in expediting the diagnosis of OSA and its surgical management. However, time to surgical treatment in moderate and severe OSA is substantially greater than current recommended guidelines; an issue which needs to be addressed in the endeavour of optimising care for children with OSA.

Keywords // Obstructive Sleep Apnoea, Pulse Oximetry, Paediatric Sleep Disorder

PC15 // PEDIATRY // Paediatric ORL
Psychogenic Dysphonia in Children
Tiago Costa, Raquel Ayres, João Figueira, Raquel Bento, Leonel Luis (Portugal)
Pulido Valente Hospital, North Lisbon Hospital Center

Background: Psychogenic dysphonia is a conversion voice disorder in the absence of a structural or neurological pathology to justify the nature and severity of the dysphonia. Methods: Case reports
Case report: We report the cases of two 11 year old girls, both presenting in the emergency room after 3 month of sudden onset of hoarseness. Both cases had no history of voice abuse or misuse. At physical examination and laryngoscopy the only findings were the presence of a longitudinal laryngeal gap and minor thickening of the posterior commissure. Both girls started on weekly voice therapy sessions and Proton Pump Inhibitors. In only one of the cases, a psychogenic triggering factor was identified. At the 5th and 10th session, respectively, both girls had normal voice parameters, despite maintaining similar laryngoscopy findings.

Conclusions: Not only the clinical history but a complete physical and psychological evaluation is essential when assessing dysphonia in children.

Keywords // Dysphonia, Psychogenic, Children

PC16 // PEDIATRY // Paediatric ORL
Prevalence of mouth breathing in children in the city of Belo Horizonte, Minas Gerais, Brazil
Isabela Martino Menezes Resende, Daniele Cristina Gomes (Brazil)
Prefeitura Municipal de Belo Horizonte - CEM Nordeste. (Northeastern Specialties Medical Center)

The present study aims to evaluate the prevalence of mouth breathing in children from public schools in the city of Belo Horizonte, Minas Gerais, Brazil. We compared the results with those founds in private school. Our goal is to evaluate the prevalence of oral breathing in each of the populations and the impact of prevention and easier access to medical care and information.
We seek to measure the percentage of previous diagnoses in each of the populations and treatments already instituted. This study serves as a basis to support a protocol of care to the mouth breathers to be deployed in the health and education of the municipal government of Belo Horizonte.

Keywords // mouth breathing, prevention, prevalence, children

PC17 // PEDIATRY // Paediatric ORL
Effect of Argentum proteinate solution on clinical strains of Candida Tropicalis (in vitro)
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"Moscow Scientific and Practical Center of Otorhinolaryngology" Department of Health of the City of Moscow

OBJECTIVES: Studying of Argentum proteinate solutions of various concentrations on polyresistant fungus strain C.tropicalis.
METHODS: Investigation was carried out to study the influence of antiseptic Argentum proteinate (in vitro) with concentrations of solution from -2%, 1%, 0.5%, 0.1% to 0.05% on polyresistant fungus strain of Candida tropicalis, taken from a child with acute exacerbation of chronic adenoiditis, from nasopharynx. The Candida tropicalis culture was used as the suspension of blast spores in distilled water (concentration of fungus cells was 5x10^7 cfu/ml)
RESULTS: No growth of fungus cell culture was determined in Petri dishes with Argentum proteinate solution concentrations of 2%, 1%, 0.5% and 0.1%. The concentration of solution 0.1% was the minimum one with no growth of fungus cell culture. Isolated single growth of Candida tropicalis fungus colonies was obtained in Petri dish with solution concentration of 0.05%. There was an abundant growth colonies in the control dish.
CONCLUSIONS: Argentum proteinate has the expressed antifungal effect in solution concentrations of 2%, 1%, 0.5% and 0.1% and can be used in pediatric practice for the local treatment of candida adenoiditis.

Keywords // chronic adenoiditis, fungal infection

PC18 // PEDIATRY // Paediatric ORL
Objectification of hearing disorders identification in newborns
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OBJECTIVES: to rate the studying objectivity of the aural function in newborns in normal terms and with perinatal affection of central nervous system (CNS). METHODS: 77 children (154 ears) of the age from 4 to 28 days were gradually examined: screening-test (FSS), step by step temporal stimulus from 10 to 70 dB, registration of standard ABR potential (from 20 to 70 dB). 2 groups were formed: 1st group - 50 children with perinatal affection of CNS, hypersensitivity syndrome, muscular dystonia syndrome, purulent menigitis and combination

Keywords // Otorhinolaryngology
RESULTS: 96% of children in the 1st group and 90.2% - in the 2nd group had positive screening-test result. Step by step temporal stimulus of 154 ears: wave V was registered at the intensity level of the stimulating signal of up to 40 dB in 71.5% children of the 1st group and in 65.3% of children in the 2nd group. The results of 12.6% (1st group) and 22.5% (2nd group) of children couldn’t be analyzed because of the large amount of artifacts.

CONCLUSIONS: Registration of brainstem auditory evoked responses is certainly important as an objective method of auditory function studying in newborns in normal terms and with pathology, during both screening and advanced clinical examination.

Keywords // hearing disorders, newborns

PC19 // PEDIATRY // Paediatric ORL
Comparative analysis of the vasomotor rhinitis treatment results in children
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OBJECTIVES: Comparative analysis of efficiency of the treatment we developed used for children with vasomotor rhinitis (VR).

METHODS: 120 children of age from 7 to 15 years old with vasomotor rhinitis were examined and treated. Children with allergic rhinitis and with pathology of upper respiratory tract (adenoid vegetation, distortion of the nasal septum, sinusitis) were excluded. Endoscopy of the nasal cavity and nasopharynx and the examination of the olfactory, transport and respiratory functions of the nasal cavity were performed.

RESULTS: 3 groups of 40 people: I group – endonasal electrophoresis with CaCl2 according to the standard methodology, course – 10 days; II group – endonasal electrophoresis with CaCl2 with the course of endonasal injections of Etamsylate 12.5%, 7-10 days; III (basic group) – the course of endonasal fluctuating currents (Patent on invention RF № 2220750, 2004). By the end of the treatment course, olfactory function was restored in the I and II groups by the 7-10 day, in the III group – by the 5-7 day; the recovery of microcellular activity in the basic group appeared much earlier than in the comparison groups; VF and AER indexes in the basic group were authentically higher than those indexes in the I and II groups.

CONCLUSIONS: The faster recovery of the nasal cavity functional condition is the advantage of the developed VR treatment method for children; it allows to reduce the treatment period comparing to the traditional methods of treatment.

Keywords // vasomotor rhinitis, children

PC20 // PEDIATRY // Paediatric ORL
Features of the ear discharge microflora in children with acute exacerbation of chronic purulent otitis media
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"Moscow Scientific and Practical Center of Otorhinolaryngology" Department of Health of the City of Moscow

OBJECTIVES: Studying of the ear discharge microflora during acute exacerbation of chronic purulent otitis media in childhood.

METHODS: Discharge from the ears of 139 children (159 ears) containing different forms of CPOM was microbiologically studied, with determination of the pathogen and identification of its sensitivity to antibiotics.

RESULTS: Associations of microorganisms were identified in 33 (20.8%) cases “+” with epi- and epimembranitis; monoflora was found in 101 (63.5%) cases; no flora was determined after bacteria seeding in 25 (15.7%) patients. Pseudomonas aeruginosa (170), Staphylococcus aureus (144) were dominating, Escherichia coli, Enterobacter sp. (16 each), Klebsiella pneumoniae (11), Streptococcus epidermidis, Corynebacterium sp., Proteus vulgaris, Haemophylus influen (4 of each) were less common.

Identification of the microflora sensibility to antibiotics: gentamicin (52 cases), vankomycin (30), ciprofloxacin (30), oxacillin (28), erythromycin (23), amikacin (21), imipenem (21), lincomycin (16), carbenicillin (13).

CONCLUSIONS: Microflora of chronic purulent inflammatory process in the middle ear is basically represented by monoclure (63.5%) and polycomponent compositions (20.8%), at the same time an increasingly larger role in CPOM etiology belongs to Pseudomonas aeruginosa and Staphylococcus aureus.

Keywords // chronic purulent otitis media, microflora, children

PC21 // PEDIATRY // Paediatric ORL
ADENOTOMY AS A STAGE OF EXUDATIVE OTITIS MEDIA TREATMENT IN CHILDHOOD
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OBJECTIVES: Evaluation of the adenotomy efficiency as one of the exudative otitis media (EOM) treatment stages in childhood.

METHODS: 28 children of the age from 4 to 12 years old with two-sided EOM were examined. The following examinations were carried out: computer tomography of temporal bones, acoustic impedancemetry, otoacoustic emission, tonal threshold audiometry.

RESULTS: Hypertrophy of adenoid vegetations was identified in 20 children – 3rd degree, 5 children – 2nd degree. 3 children had tubal tonsils hypertrophy with 1st degree adenoids. Adenotomy was performed for 25 children, 3 of them underwent adenotomy with simultaneous two-sided shunting of the tympanic cavities. Laser or electrosurical correction of tonsils was performed for 3 children with tubal tonsils hypertrophy. The recovery of the auditory tube (tympanograms type A), normalization of the hearing were noted in 19 cases in 2 months. Tympanograms of types B or C remained in 6 children. Full recovery of the auditory tube was determined in children after the adenotomy with simultaneous shunting. Full recovery of hearing function was noted in children after the tubal tonsils correction.

CONCLUSIONS: In the majority of cases the leading reason for the exudative otitis media is represented by nasopharynx lymphoid tissue hypertrophy; adenotomy is one of the basic stages of the EOM treatment, which is often promoting complete recovery without further interventions and course of conservative treatment.

Keywords // otitis media with effusion, children, adenoids

PC22 // PEDIATRY // Paediatric ORL
Ultrasonic research of maxillary sinuses for acute maxillary sinusitis diagnostics in children
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OBJECTIVES: Maxillary sinuses ultrasonic research abilities evaluation in diagnostics of inflammation forms during acute maxillary sinuses in children.

METHODS: 37 children from 3 to 15 years old with acute maxillary sinuses were examined. All patients were brought to the hospital with X-ray images of paranasal sinuses; they underwent ultrasound examination of maxillary sinuses using ultrasound echosinuscope by the ultrasound probe 4.1MHz, diameter 10 mm, focused in the range of 2-6 cm.

RESULTS: According to the plan radiography data, 25 (67.6%) patients had total homogeneouse pneumatization reduction of 1 or both maxillary sinuses in 9 (24.3%) patients were determined to have parietal edema of mucosa, 3 (8.1%) patients - horizontal liquid level. Different lesions of maxillary sinuses were identified during ultrasonic research. Several types of sonograms with important diagnostic value were distinguished after the comparative analysis of clinical, X-ray and ultrasonic examinations results (from children with chronic sinuses) with results of the maxillary sinuses function.

CONCLUSIONS: Ultrasonic echosinuscopy in children with acute sinusitis, allowing to identify form of the disease, to avoid X-ray radiation, to conduct non-functional treatment of this pathology, which is very important in childhood, especially in infancy and preschool age group, and also to control the condition of maxillary sinuses during the treatment process.

Keywords // Ultrasonic research, maxillary sinuses

PC23 // PEDIATRY // Paediatric ORL
Indicators of a more complicated clinical course for pediatric patients with retropharyngeal abscess
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2nd Meeting of European Academy of Otolaryngology Head and Neck Surgery (EAE-HNOS)
Alazhar University

Retrospective chart review at a tertiary care level Children’s hospital.

Main Outcome Measures Age, presenting signs and symptoms, lab. tests, imaging results, antibiotic therapy, surgical approach, pathogens isolated, and duration of hospitalization were evaluated to determine factors associated with a complicated clinical course (CCC).

Results: 15 of one hundred thirty pediatric patients with RPA were identified with a complicated clinical course (CCC). 8 of the fifteen required more than one procedure before the abscess resolved. Patients with multiple abscess sites had a statistically significantly greater chance of requiring multiple procedures to clear the infections (p

Keywords: // Retropharyngeal abscess, Complications, Airway obstruction, Multiple sites

PC24 // PEDIATRY // Paediatric ORL
Biofilms And Chronic Rhinosinusitis In The Paediatric Population ““ Literature Review
Ahmad Abu-Omar, Paul Leong (Royaume-Uni)
Peterborough City Hospital

Introduction
Chronic rhinosinusitis has a significant impact on the child’s quality of life. Biofilms are increasingly associated with chronic infectious processes. Although their contribution to adult rhinosinusitis is well documented; clarification is needed for their role in the paediatric population

Aim
To assess the evidence relating to the role of biofilms in the pathogenesis of chronic rhinosinusitis in children

Methods
An electronic literature search was undertaken. Medline database was searched for the terms “biofilm” and “pediatric” and “rhinosinusitis”. The search was extended to include “biofilm” and “rhinosinusitis” and the medical subject heading terms “infant” or “child” or “adolescent”. Embase was searched for the terms “biofilm” and “pediatric” and “rhinosinusitis”

Results
Papers generated from the search were reviewed. Seven related articles were identified for further evaluation.

One study reported a statistically significant difference in the surface area of adenoids covered with biofilm in chronic rhinosinusitis compared to adenoidal hypertrophy not associated with infection. Another study showed a similar prevalence of biofilm regardless of infectious versus obstructive processes

Conclusion
Controversy surrounds the significance of biofilms in paediatric chronic rhinosinusitis. Good prospective studies with a large number of participants to obtain a homogenous population are needed to investigate this further and design effective treatment options

Keywords: // Biofilm, Chronic, Rhinosinusitis, Paediatric

PC25 // PEDIATRY // Paediatric ORL
Identification Of Auditory Neuropathy Spectrum Disorder (ANSD) In Children
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Purpose
The identification of ANSD in the paediatric population poses immense challenges. We present a single centre experience of a cohort of patients with ANSD

Method
A retrospective case note review was undertaken. Data collected included: source of referral, predisposing factors, diagnostic criteria and outcomes of children with ANSD

Results
We identified 15 patients between the years 2007-2010. Ten were referred from the Newborn Hearing Screening Programme; 20% from ENT; 13% from other specialties. The majority of patients had a combination of risk factors; neonatal intensive care admission (60%); low birth weight (60%); prematurity (27%); jaundice (20%); CMV (7%) and family history of hearing loss (7%)

Diagnosis is challenging in this age group. We used otoacoustic emissions, auditory brainstem responses and cochlear microphonics. Mean age at diagnosis was 8.5 months. Behavioural hearing ranged from normal (20%), mild (7%), moderate (20%) to severe and profound loss (27%). Hearing thresholds in four patients (27%) could not be assessed due to young age, failure to attend or death.

Eight patients (53%) are awaiting further behavioural assessment; three (20%) had hearing aids; two (13%) had cochlear implantation. The remaining children received no treatment due to moving abroad or death

Conclusion
We discuss the diagnostic challenges of ANSD in the paediatric population. Considerable variation in hearing loss and significant heterogeneity in the treatment of ANSD was noted

Keywords: // Auditory, Neuropathy, Paediatric

PC26 // PEDIATRY // Paediatric ORL
BACTERICIDAL ACTION OF HIGH FREQUENCY CURRENT
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Shupky National Medical Academy of Postgraduate Education

There were used different bacterial cultures in the investigation. Suspension of microorganisms was spread into Petri dish with agar. After inoculum agar drying bipolar instruments were passed over the surface of the agar: without the current feed (control), by effect of high frequency current (66 kHz) in “cutting” working condition during 1 or 2 seconds, “coagulation”, “clamp” and “welding” during 4 seconds. The investigation was conducted by effect of high frequency current which was fed through bipolar electric instruments in working conditions: “cutting”, “welding”, “coagulation” or “clamp” with stable temperature indices (60-70°C).

It was determined that high frequency current (66 kHz) during its usage (current feed through bipolar scalpel) cause bacterial retention regardless of bacterial type and their antibiotic susceptibility, museum strain and freshly isolated strain. Current effect becomes apparent in different working conditions of electric coagulator EK-300M1 but more distinct bacterial retention is observed while cutting and welding.

When using all bipolar otorhinolaryngological electric instruments during electric thermoadhesion there occurred antibacterial high frequency current effect. It was proved by the formation of zone with an absence of bacterial growth in place of agar contact with working electrodes and the nearest parts of nutrient areas. Radius of antibacterial current effect was in direct relation with the size of working electrodes.

Keywords: // bipolar instruments, bacterial cultures, thermoadhesion

PC27 // PEDIATRY // Paediatric ORL
A MODERN APPROACH TO FRENOTOMY: GUIDELINES ON THE TREATMENT OF ANKYLOGLOSSIA
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Castle Hill Hospital

The management of ankyloglossia has been controversial. There is a clear need for an evidence based approach, since more information has become available in the last ten years.

We present new guidelines on the treatment of ankyloglossia based on a review of the recent literature. We suggest dividing patients into two groups: (1) mild/moderate or (2) severe. We recommend surgical intervention for severe cases where breastfeeding problems or failure to thrive have been established. For those patients with mild/moderate ankyloglossia we would encourage breast feeding without surgical follow-up.

These guidelines present an appropriate treatment strategy for affected infants and a practical algorithm for management. They take into account the current evidence and inform parents of treatment options, encouraging breastfeeding in affected infants without stigmatising those at risk of failure.

These guidelines provide an evidence based approach that unifies current practice.
Conclusion: Congenital laryngomalacia may be a predictor of many somatic except cases of severe laryngeal stenosis. There is lack of data regarding growth supraventricular arrhythmia - in 15.4%, wandering pacemaker - in 7.7%).

Complained of stridor during sleep lying on the back, 5% had night apnea. Viral children aged 5 years by FFL. All children had connective tissue dysplasia of the most unusual causes of airway obstruction during the neonatal period. We report a 2-month-old girl who presented with repeated vomiting, failure to thrive and recurrent bouts of stridor and cyanosis since birth. On examination there was a mass originating from the oropharynx. The mass was excised under general anaesthesia by CO2 laser. Histopathological examination revealed a teratoma of the oropharynx. We discuss the clinical presentation, diagnosis and treatment of this case as well as a review of the literature.

Keywords: Congenital laryngomalacia

PC28 // PEDIATRY // Paediatric ORL
Oropharyngeal teratoma, a rare cause of airway obstruction in neonates
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Alexandria University Hospitals

Oropharyngeal teratomas are extremely rare congenital tumours, and because of their location in the upper airway they represent one of the most unusual causes of airway obstruction during the neonatal period. We report 2 cases of oropharyngeal teratomas in newborn children.

Keywords: Oropharyngeal teratoma

PC29 // PEDIATRY // Paediatric ORL
Physical Examination of Children with Congenital Laryngomalacia Aged Five Years
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Laryngomalacia is usually a self-limiting condition - in most cases stridor disappears up to 2-4 years of age. So it was considered to be a safe disease except cases of severe laryngeal stenosis. There is lack of data regarding growth and development of children with laryngomalacia. Objective: To evaluate the impact of laryngomalacia in infants as a predictor of chronic diseases in older children.

Materials and methods: We examined 60 children with congenital laryngomalacia in 5-years follow-up after initial diagnosis in neonates by FFL. Results: Abnormal laryngeal appearance seen during inspiration in 80% of children aged 5 years by FFL. All children had connective tissue dysplasia of various degrees. GERD was diagnosed in 93.3%. Chest deformations were found in 45%, with peptic excitavum in 1/3 (in population up to 1.0%). 13.3% complained of stridor during sleep lying on the back, 5% had night apnea. Viral group was in 57.7% of patients (in population up to 10%). Also this children more suffer from bone and cardiovascular disorders as well as nervous system and gastrointestinal tract pathology. Life-threatening conditions of heart-rate disorders occur 2 times more often than in population (sinus bradycardia and supraventricular arrhythmia - in 15.4%, wandering pacemaker - in 7.7%). Conclusion: Congenital laryngomalacia may be a predictor of many somatic lesions including dysplasia of connective tissue, anomalies of nervous, cardiovascular, gastrointestinal and bone system.

Keywords: Congenital laryngomalacia, physical examination, catamnesis, children aged five years

PC30 // PEDIATRY // Paediatric ORL
spec of ENT
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ZVEZDARA HEALTH CENTER

Introduction: Chronic rhinosinusitis is an inflammatory process that affects the nasal mucous membranes and paranasal cavities. It is clinically characterized by difficulty in breathing through the nose, rhinorrhea and/or postnasal drip, pain and/or pressure on facial area, weakening or loss of sense of smell lasting longer than 12 weeks without full remission of symptoms.

Aim of Work: The aim of work was to draw attention to the frequency and characteristics of this illness and methods of diagnosis and therapy treatment in children.

Method: Our analytical study covered 41 patients between the ages of 5 and 19 in the course of 2012. Diagnosis was made based on symptomatology, clinical ENT examination, radiological procedure (Rtg/CT PNS), endoscopic method, microbiological analysis of aspirate, and allergological tests. Therapy was medicamentose and/or surgical-FEES.

Results: The analysis of frequency of patients by age was not statistically significant (F=5.220; DF=4; p>0.05). In the research there were equal instances of male and female patients (F=0.220; DF=1; p>0.05). The season for the onset of the illness in most cases was late autumn and winter in 87,80% (F=23.439; DF=1; p

Keywords: // Rhinosinusitis, etiopathogenesis, therapy, children

PC31 // PEDIATRY // Paediatric ORL
Efficacy of Herbal Medicine, Juzen-taiho-to (JTX), in Children with Recurrent Acute Otitis Media “A Randomized Controlled Trial
Makoto Ito, Yumiko Maruyama, Ken Kitamura, Yoshimitsu Kobayashi, Haruo Takahashi, Noboru Yamanaka, Yasuaki Harabuchi Yukio Watanabe Hideo Ogisaka and Tomokazu Yoshizaki (Japan)
Kanazawa University Hospital

The rapid increase of recurrent acute otitis media (AOM) (otitis-prone) in young children are now emerging worldwide. To examine the possible effect of traditional Japanese herbal (Kampo) medicine, juzen-taiho-to (JTX), in prevention of otitis-prone in young children.JTX group received JTX and conventional treatment for AOM, while the other group received conventional treatment only. Among 87 otitis-prone children enrolled and randomized, at least one episode of AOM was diagnosed in 71% (22 children) of JTX group (n=31) and in 92% (36 children) of control group (n=39) during the follow-up. Mean times and standard deviation of the frequency of AOM in JTX group and control group was 0.61±0.54 (times/month) and 1.07±0.72 (times/month). The children in JTX group had fewer episodes of AOM than the control group (P=0.005). The use of JTX also significantly decreased both number of coryza episodes (P=0.015) and total antibiotics administration (P=0.024). Oral administration of JTX reduced the frequency of AOM episodes by 57% compared with non-JTX group (children received conventional treatment alone). JTX is considered to be an effective treatment for otitis-prone cases, and avoiding the overuse of antibiotics will help prevent the emergence of drug-resistant bacteria. This is the first report that otitis-prone is prevented by medication.

Keywords: Recurrent acute otitis media (Otitis prone), Randomized controlled trial, Juzen-taiho-to, Japanese herbal medicine (Kampo), Microbiota

PC32 // PEDIATRY // Paediatric ORL
Recurrent laryngeal papillomatosis in children
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Mother and Child Health Care Institute of Serbia

Laryngeal papillomatosis is a disease of viral etiology caused by HPV types 6 and 11. It manifests itself with proliferative exophytic lesions on the laryngeal mucosa. Juvenile laryngeal papillomatosis is the most common benign laryngeal tumor in children and the second most common cause of hoarseness in the pediatric population. It is most often diagnosed between 2 and 4 years. Basic characteristics of the disease is spreading and aggressive recurrence. The younger the child is at the time of diagnosis, the disease is more severe. Due to the smaller lumen of the airway, laryngeal papillomatosis in children can lead to extreme hoarseness which becomes progressive, severe obstruction of breathing that can be completed with respiratory distress. The changes usually begin in the anterior first thirds of the vocal cords, although they may affect the entire larynx, extending to the trachea, bronchi and lung parenchyma. The lesions are usually multiple, rarely solitary. Due to the aggressiveness of the disease children require multiple surgical procedures.Treatment involves surgical excision which is the basic protocol of treatment with adjuvant therapies. The aim of our study was to show patients with juvenile laryngeal papillomatosis, as well as the results of their treatment in the ENT department of the Mother and Child Health Care Institute of Serbia, from 2007-2012.

Keywords: papillomata larynx

PC33 // PEDIATRY // Paediatric ORL
Rhabdomyosarcoma of the soft palate in children - report of two patients
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2nd Meeting of European Academy of ORL-HNS and CE ORL-HNS
The aim of this paper is to present two cases of rhabdomyosarcoma in a ten-year girl and a three-year old boy with a rare localization on the soft palate, which were surgically successfully treated.

After diagnostic procedures, we performed radical excision of the tumor which has been located in the girl only on the soft palate and the boy had tumor localized on at the joint of frontal and posterior palatinal arcus, infiltrating the soft palate and uvula. Postoperatively, after histopathological verification of embryonal rhabdomyosarcoma, both children were treated with chemotherapy and radiotherapy. Five years after surgery girl is well and there was no clinical or CT/NMR diagnosed local recurrence of the disease while the boy is still in the stage of finishing chemotherapy, but local findings in the area of surgical intervention is clear.

Rhabdomyosarcoma is an aggressive malignant tumor derived from embryonic mesenchymal tissue of skeletal muscle. It is very difficult for the surgical treatment because of the functional importance of local structures and the tumor characteristics. All this may limit tumor excision, and impact on postoperative speech and swallowing. Embryonal rhabdomyosarcoma treatment and prognosis in the head and neck region depend on the child's age, speed and accuracy of diagnosis, tumor localization, local and regional expansion, opportunities for radical surgical removal and histopathological type of the tumor.

Keywords // rhabdomyosarcoma, palate, surgery

PC34 // PEDIATRY // Paediatric ORL

INCREASED FREQUENCY OF CHRONIC RHINOSINUSITIS IN CHILDREN - DIAGNOSIS AND THERAP

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12Vezdara Health Center, Belgrade; 2ENT Clinic, Clinical et Hospital Center”Zvezdara,” Belgrade.

Introduction: Chronic rhinosinusitis is clinically characterized by difficulty in breathing through the nose, rhinorrhea and/or postnasal drip, pain and/or pressure on facial area, weakening or loss of sense of smell lasting longer than 12 weeks without full remission of symptoms. Objective: The aim of the work was to draw attention to the frequency and characteristics of this illness and methods of diagnosis and therapy treatment in children. Method: Our analytical study covered 41 patients between the ages of 5 and 19 in the course of 2012. Diagnosis was made based on symptomatology, clinical ENT examination, radiological procedure, endoscopic method and microbiological analysis of aspirate. Therapy was medicamentose and/or surgical- FESS. Results: The analysis of frequency of patients by age was not statistically significant (H2=5.220; DF=4; p>0.05). The most frequently isolated was Staphylococcus aureus (39,02%). In 46.34% of the patients there was chronic allergic/vasomotor rhinitis. All patients were treated by medicamentose therapy and only five patients were treated surgically- FESS method (H2=23,439; DF=1; p

Keywords // chronic rhinosinusitis, etiopathogenesis, therapy, children

PC35 // PEDIATRY // Paediatric ORL

ADENOIDITIS IN CHILDREN

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Objective: To evaluate the efficiency of irrigation therapy in children with allergic rhinitis, bronchial asthma and adenoids.

Methods: 91 children aged 7-15 with the diagnosis “Adenoid vegetation of the 1-2d degree. Acute adenoidsitis. Allergic rhinitis. Bronchial asthma” were being analyzed for 3 years. Sick children were divided in two groups: children of the main group (56 persons) together with conservative therapy were made irrigation therapy with rhinorin, consisting of sea water and 0.01% benzalkonium chloride as an antimicrobial agent i. Children of comparative group (35 persons) were given standard conservative therapy and 0.9 physiological fluid. All children were subjected to diagnostic and allergological examination.

Results: before the beginning of therapy in patients of the main group and the comparative group the obstruction in nasal breathing was evident (2,98 Å 0,01 and 2,94 Å 0,05 accordingly) and rhinorrhea (2,66 Å 0,09 and 2,77 Å 0,08). In a month the main group the obstruction in nasal breathing (0,69 Å 0,12) and rhinorrhea (0,67Å 0,12) considerably decreased (p

PC36 // PEDIATRY // Paediatric ORL

Rapidly-growing, silent – but benign: a Case Study of Childhood Lipoblastoma

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Lipoblastoma was first described in 1926 by Jaffe, as a benign, solid tumour composed of immature embryonic fat. This childhood tumour is an exceedingly rare cause of head and neck masses and it usually appears in the soft tissues of the trunk and the extremities. Although commonly asymptomatic, depending on its location and the growth rate, lipoblastoma may cause dysfunction as a result of mass effect. Overall, it is thought to have a generally favourable prognosis and a total excision seems to be the treatment of choice. A 14 month old boy presented in our clinic with a painless, rapidly growing mass in the right submandibular region. He was otherwise physically healthy with no other pertinent medical history. No other masses or adenopathy were noted in the head or neck. Ultrasonography confirmed a well defined tumorous mass in close relation to the right submandibular gland. The decision was made to proceed with a surgical excision of the tumour and the associated submandibular gland. Subsequent pathohistological analysis confirmed the diagnosis of lipoblastoma. The patient is currently being followed, with no recurrence of the lesion present in four years post-excision. Although history, physical findings, radiological investigations and cytology may complement each other and suggest etiology of the soft tissue neck masses presenting in children, the gold standard of histopathologic examination is nonetheless required for finite confirmation of the diagnosis.

Keywords // Lipoblastoma, rare paediatric tumour

PC37 // PEDIATRY // Paediatric ORL

Awareness of Otitis Media with Effusion amongst consumers at retail outlets for children's goods

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Introduction: Otitis media with effusion (OME) is a common disorder in early childhood. It is characterised by the accumulation of mucous fluid in the middle ear. OME is the major cause of conductive hearing loss in children, with 80% of those

Keywords // Otitis media with effusion, OME, grommet, ventilation tube, speech and language development

PC38 // PEDIATRY // Paediatric ORL

Neck and subclavical lipoblastoma in a child 20 month old (clinical case).

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Introduction. Lipoblastoma - a rare benign neoplasm, which arises from embryonic white fat, consists of adipocytes and lipoblasts with various degree of differentiation. Peak incidence is among early childhood (toddlers). The lesions are characterized by rapid growth, high risk of recurrence and are usually asymptomatic, except cases with external Ætumor mass syndromeÆ.

Purpose. There are less than 200 cases of lipoblastomas described in world. The purpose of this article is to demonstrate clinical aspects, treatment approaches and technical surgery features of a rare benign tumor with an even more rare localization (65% are localized on the extremities, 10-15% - on the neck).

Materials and Results. A 20-month old girl was diagnosed with neck lipoblastoma (CT and MRI of head, neck and mediastinum, biopsy) with complex anatomical emplacement: the tumor closely adjoins C6-Th2 vertebrae without penetration, displaces and compresses the right common carotid artery, trachea, esophagus and apex of the right lung. Understanding high risk of main neck vessel occlusion, violation of swallowing, respiratory damage and brain damage due to general hypoxia the child underwent a successful radical operation without complications.

Keywords // adenoidsitis in children
Conclusion. Benign nature of lipoblastoma determines high probability of full recovery. However, in cases of vital anatomical structure involvement into the neoplastic process there is a high risk of incomplete resection and recurrence of the disease.

Keywords // lipoblastoma, childhood, neck region, surgical treatment

**PC39 // PEDIATRY // Paediatric ORL**

**Improvement of Eustachian tube function after adenotonsillectomy, adenoectomy and tonsillectomy**

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Objective: To investigate Eustachian tube function before and after adenotonsillectomy, adenoectomy and tonsillectomy.

Design: Prospective control study.

Patients and methods: We performed ear, nose, throat examination, and tympanometry in 108 children (56 males and 52 females) before and after adenotonsillectomy, adenoectomy and tonsillectomy. The children were at the age 5 to 14 years. The study was conducted in the period from January 25 2012 to December 25 2012 Results: Adenotonsillectomy was performed in 58 children, Tonsillectomy was performed in 30 children, Adenoectomy was performed in 20 children. Before surgery 18 children (16.7%) had type A tympanogram (+50 daPa to -99 daPa), 32 children (29.6%) had type B tympanogram (flat), and 58 children (53.7%) had type C tympanogram (-100 daPa to -350 daPa). One month after surgery 104 children (96.3%) had type A tympanogram and 4 children (3.7%) had type C tympanogram. We calculated median of middle ear pressure. Statistical analysis in patients with adenotonsillectomy show t = 13.1096, df = 28, SE of differences = 11.063, p < 0.0001. Statistical analysis in patients with tonsillectomy show t = 10.8036, df = 14, SE of differences = 7.590, p < 0.0001. Statistical analysis in patients with adenoectomy show t = 7.9641, df = 9, SE of differences = 11.941, p < 0.0001.

Conclusion: There is significant negative middle ear pressure preoperative with significant improvement one month postoperatively.

Keywords // Eustachian tube, tympanometry,
The oculo-auriculo-vertebral spectrum (OAVS) is a rare congenital anomaly characterized by ocular, auricular and vertebral malformations often associated with other visceral or facial alterations. It is a genetic disease that presents a wide phenotypic variability and hearing disorders. It is believed that the OAVS part of a more complex clinical abnormalities of the first and second branchial arches. The aim was to describe hearing features that can be observed in patients with this spectrum. We included patients treated at the Clinical Genetics Service UFCSPA who presented initial clinical suspicion of OAVS and accepted to participate in the study. The study was approved by the ethics committee of the institution under number 851/09 of 05/14/2009. The final sample consisted of 9 children (1y9m – 12y6m), which 5 male. Seven children reported complaint in the right ear and 2 did not have a specific complaint. Among the findings of the interview 4 had complications during pregnancy, 6 were born at term and 8 were hospitalized after birth. Regarding ear changes, 7 had a preauricular tags, 8 microtia, 6 low set pinna, 5 preauricular fistulas, and 4 ear canal atresia. Examinations were performed as tonal and vocal audiometry, otoacoustic emissions and auditory evoked potential as needed. Four children had normal hearing, 4 conductive hearing loss, 1 sensorineural hearing loss. Thus, we conclude that investigating hearing aids aspects this group of patients is highly relevant.

Keywords: // oculo-auriculo-vertebral spectrum, audiology, genetics, otolaryngology

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In the last three groups the results (otoscopic clearence, audiometry, tympanometry, parental opinions) are better than the outcomes of myringotomy alone, without tympanostomy tube placement.

CONCLUSION: According to our results myringotomy should not be the first line management option in patients with chronic secretory otitis.

Keywords: // Otitis media with effusion, myringotomy, tube insertion

PC46 // PEDIATRY // Paediatric ORL

Hearing in school aged children with Down's Syndrome
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(<p>Introduction We previously reported hearing outcomes in preschool children with Down&amp;rsquo;s Syndrome seen in our surveillance clinic. Once of school age they are seen by the specialist audiologist for biennial hearing follow up. We report the hearing findings in this complete birth cohort of school aged children from a well-defined geographical area. Methods A retrospective case note review between 2004 and 2012 of hearing levels and management of hearing loss. Results 112 children (F:M=1:04:1) were seen. 64 (57%, F:M=1:13:1) had normal hearing. 30 children required intervention for their hearing loss. 5 had grommet insertion only and 21.4% (n = 24, F:M=3:2) required a hearing aid. 11 children have on-going hearing aid requirements (1 uses a bone-conducting hearing aid and 1 has a bone anchored hearing aid). 7 were managed with hearing aids and grommets. 25% of children managed with hearing aids had fluctuating conductive hearing loss varying from mild to severe. 13 had otitis media with effusion (F:M=3:3:1) varying from mild to profound. 5 had a mixed loss varying from moderate to severe. Average hearing levels were determined for children that required intervention. Conclusion Hearing loss requires intervention in 1 in 4 children with Down&amp;rsquo;s Syndrome and 1 in 10 require on-going management of their hearing loss. Conductive hearing loss is the main cause of hearing loss in this cohort. Hearing aids are acceptable to the child and parents in the management of hearing loss.</p>)

Keywords: // Down's Syndrome, Otitis Media with Effusion, hearing loss, hearing aid, grommet

PC47 // PEDIATRY // Paediatric ORL

Upper airway respiratory syndrome in childhood evaluated by polysomnography
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Upper airway respiratory syndrome in childhood evaluated by polysomnography Petreska Dukovska V., Orovcane Gj. ENT department ,PZU Remedia ,Skopje,Macedonia Obstructive sleep apnea syndrome in a child is characterized by prolonged episodes of obstructive hypopnea and/or apnoea of upper airway leading to morbidity. The most common risk factor is adenotonsillar hypertrophy. Obstructive sleep apnea syndrome diagnosis is based on clinical ENT evaluation and an instrumental approach, such as the gold standard overnight polysomnography. The aim is to establish, in a population of children with suspected obstructive sleep apnea syndrome, the frequency of this disorder, the effect of adenotonsillectomy and the risk of post-operative complications. A total of 118 patients (63 male, 55 female) with suspected obstructive sleep apnea syndrome (aged 3-12 years) were evaluated between October 2011 and November 2012. We were following 3 parameters: AHI (number of apnea and hypopneas per hour), ODI is the number of oxygen desaturation per hour, and snore index is the percentage of time spent snoring versus the total time spent in bed. All patients underwent ENT assessment and a polysomnography. Adenotonsillectomy was the first therapeutic approach. At 6 weeks after surgery, all patients underwent check-up polysomnography. Adenotonsillectomy showed a success rate of 92% and there were no episodes of post-surgery complications in particular in those patients at increased risk.

Keywords: // sleep apnea, tonsillectomy, obstructive, child

PC48 // PEDIATRY // Paediatric ORL

Paediatric ENT Services in England and Wales
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ENT has a high paediatric workload. National recommendations for provision of paediatric surgical services in the United Kingdom are provided by three key documents produced by the Department of Health and Royal Colleges of Surgeons and Anaesthetists. This second cycle audit assesses the current state of paediatric services in ENT departments in England and Wales based on these recommendations and whether progress has been made since the first audit in 2003. A web-based e-mail questionnaire to 164 ENT departments yielded a 56% response rate. The recommendation of appointing a lead clinician for children’s surgery and a dedicated named paediatric ENT consultant was found in 60.9% and 58.7% of units respectively. The percentage of anaesthetists and surgeons with paediatric life-support qualifications was high and 71.1% of units had appropriate child protection training for staff. Paediatric anaesthesia was undertaken/supervised by regular consultants with appropriate paediatric training in 95.7% of units. Availability of an acute pain service varied depending on the size of the hospital. Separate waiting areas and paediatric recovery areas in theatre were found in over 50% of units with play therapists used in 71.7%. In outpatients 51.0% of units have a separate waiting area for children. Overall, there has been an improvement in the provision of paediatric surgical services in accordance with the guidelines but there remains variability in some aspects relating hospital size.

Keywords // Paediatrics, Audit, standards

PC49 // PEDIATRY // Paediatric ORL
The influence of stents on microbial colonization of the airway in children after slide tracheoplasty: a 14-year single-centre experience
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A 14-year retrospective single case note review was performed on microbial colonization of the respiratory tract in children undergoing slide tracheoplasty (STP) and stent insertion compared to those without stents and those undergoing cardithoracic but no airway surgery. Noise and throat and bronchoalveolar lavage specimens were analyzed for microbial profile expressed as cumulative mean microorganisms per patient (MMP).

43 patients (median age±SD 15.0±3±76.7 months) underwent STP (27 requiring a stent) and 341 underwent cardithoracic but no airway surgery (median age±SD 31.7±4.7 months). 172 positive microbial specimens were identified. The predominant four microorganisms were (1)Staphylococcus aureus, (2) Pseudomonas aeruginosa, (3)Haemophilus influenzae not type B, (4) Coillforms. Children with stents after SJP had more MMP compared to those without (4.0±6±0.23 and 2.0±4±2.24 MMP)

Keywords // stent, airway stenosis, infection

PC50 // PEDIATRY // Paediatric ORL
Post grommet insertion complications in Wales
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Introduction: Grommet insertion is a gold standard treatment for Otitis Media with effusion (OME) in the UK. Although the surgery is considered safe, problems can occur including otorrhea and perforation. Current literature reports rates of 26% and 4.8% for otorrhoea and perforation respectively.

Aim: To ascertain the level of post grommet complications in a teaching hospital in Wales against reported rates.

Method: A retrospective study was undertaken to assess the rate of post grommet complications. Data were extracted for patient demographics, reason for grommet insertion and presence of post-operative complications. Data were assessed for factors associated with complications and examined against published complication rates.

Results: 355 episodes of grommet insertion were identified over the 27-month study period. Otorrhea occurred in 31% of patients (CI 26-36) and perforation in 1.5% (CI 0.6-3.4). Grommets inserted for recurrent AOM were more likely to have associated complications than those inserted for OME (p < 0.05). Regression analysis reveals that the rate of post-operative otorrhea reduces with age (p < 0.001). Perforation rate reduced with age (t = -2.1), although it did not reach significance (p = 0.055).

Conclusion: Complication rates for grommet surgery in Wales are similar to published data. Complication rates may be related to the indication for placement and to patient demographics. Additional research is required to further assess these findings.

Keywords // Complication, Perforation, Otorrhea, Tympanostomy tube, Grommet

PC51 // PEDIATRY // Paediatric ORL
ESOPHAGEAL FOREIGN BODIES IN CHILDHOOD
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Introduction: Esophageal foreign bodies (EFB) in children frequently are aged between 2 and 7 years. In this paper we present the symptoms, diagnosis, treatments and possible complications. Methods: A retrospective analysis of 69 rigid esophagoscopy that were made at the ENT Clinic UCC Banja Luka from 1997 - 2012, years, of a EFB in patients average age was about 4.25 years. The diagnosis was based on heteroanamnetic data, clinical ENT examination, chest x-ray, X-EGD, and rigid esophagoscopy. Results: We performed 69 rigid esophagoscopy for suspected EFB. In all 69 patients were found and extracted by a FB. The average age was 4.25 years. In 48 patients main symptom was dysphagia. Chest x-ray was positive in all metallic FB, while the non-metallic FB and FB organic we worked X-EGD which is stressed in all cases, obstruction of the passage of contrast. The most frequent localization of the FB was first physiological narrowing of the esophagus. The largest number of FB were metallic FB rounded edges (coins). We had complications in 4 patients (lesion posterior wall of esophagus). We had no complication in terms of mediastinitis, nor fatal. Conclusion: EFB in children today represent one of ENT emergencies, and require special attention since mostly the younger kids. Prevention of aspiration of EFB in children is important and must be sustained, and includes parent feeding education, especially in the first two years of life by pediatricians and family medicine physicians.

Keywords // Esophageal foreign bodies, rigid esophagoscopy

PC52 // PEDIATRY // Paediatric ORL
UPPER AIRWAY OBSTRUCTION IN CHILDREN UNDER 5 YEARS OLD: PREVALENCE, DIAGNOSIS, REPERCUSSION AND CO-MORBIDITIES NA ITS IMPACT IN PUBLIC HEALTH
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Objective: To investigate prevalence, diagnosis and repercussions of upper airway obstruction in children under 5 years-old and impact in public health.

Methods: Crosssectional study conducted with 197 children randomly selected from a universe of 900. Parents answered to anamnesis about respiratory problems, upper airway infections, perinatal history, feeding habits and a validated questionnaires about sleep disorders breathing (SDB) and allergies. All subjects were submitted to physical examination and the ones who complained of respiratory problems were submitted to nasalfiberendoscopy.

Results: 197 subjects (2.33±1.09 y.o.), 107 boys. Prevalence of mouth breathin 19.2%, nasal obstruction 18.2% and snoring 22.8%, rhinorrhea and sneezing 36.5%, SDB 7.1%. Diagnosis were: adenoid enlargement (A) 8.6%, tonsil enlargement (T) 0.5%, T&A 10.7%, rhinitis 21.9%, allergic rhinitis 7.6% . 55.7% of children were exclusively breast fed for at least 6 months and no correlation was found with nasal obstruction. SDB symptoms were found in 7.1 % and were associated only to T&A enlargement (64.2%). Children with upper airway obstruction were prone to upper airway infections and visits in the emergency.

Conclusions: Upper airway obstruction is prevalent in about 20% of children. Breast feeding was not correlated to obstructive diseases. Rhinitis is a common diagnosis. T&A is associated to sleep disordered breathing and infections, what consume high resources.

Keywords // nasal obstruction, children, otolaryngology
PC53 // PEDIATRY // Paediatric ORL
Acute otitis media (AOM) in children: correlation to the size of palatine tonsils, adenoidectomy and adenotonsillectomy
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Objective: The aim of this study was to investigate the correlation of AOM to the size of palatine tonsil and previously conducted adenoidectomy and adenotonsillectomy in children. Material and methods: A study was performed in 160 children 6 months to 7 years old at the ENT Clinic, Clinical Centre Banja Luka, from June 1st , 2011 to June 1st , 2012. Examinees were divided into two groups: experimental group with 120 children diagnosed with AOM, and a control group of 40 children with undiagnosed AOM. Results: The palatine tonsils and adenoid vegetation were present in 97.50% of children in the control group, while the remaining 2.50% of the children underwent adenoidectomy and adenotonsillectomy. In 88.33% of children with AOM palatine tonsils and adenoid vegetation were present, while the adenotonsillectomy was performed in 6.67% and adenoidectomy in 5.00% of cases. The palatine tonsils were in a condition of eutrophy in 48.72% of the children in the control group, 46.15% children had hypertrophy - Grade I, and 5.13% - Grade II. In children with AOM, 26.79% had eutrophic palatine tonsils. Compared to the children in the control group increased percentages of children with hypertrophy - Grade I (55.36%) and Grade II (17.86%). Conclusions: Study showed a statistically significant correlation between hypertrophy of palatine tonsils and AOM in children. This disease was not statistically significantly associated with previously conducted adenoidectomy and adenotonsillectomy.

Keywords // acute otitis media , hypertrophy of palatine tonsils, adenoidectomy, adenotonsillectomy.

PC54 // PEDIATRY // Paediatric ORL
Management of Paediatric chronic rhinosinusitis; National Survey
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The European Position Paper on Rhinosinusitis and Nasal Polyps 2012 published last year included revised and expanded paediatric chapters on the management of Acute rhinosinusitis and Chronic rhinosinusitis in children.

Aim: We conducted a national survey of paediatric otolaryngologists to quantify current practice of surgical management of Paediatric Chronic rhinosinusitis in the United Kingdom.

The survey also aimed to establish the level of awareness amongst Paediatric ENT consultants of the EPOS 2012 document.

Methods: A survey of questions designed by one of the EPOS 2012 Co-authors was emailed to 50 UK Paediatric ENT Consultants.

Results: 82.4% treated children with CRS over the past 6 months, the majority were treated conservatively. 80% of paediatric ENT consultants were aware of the adult EPOS2012 document compared with 47% only familiar with the Paediatric section of the EPOS 2012 document.

Conclusion: The EPOS2012 document will aid evidence-based management of children with rhinosinusitis and we aim to improve the current level of awareness. Treatment algorithms will be presented, and copies distributed at the meeting.

Keywords // EPOS, Paediatric CRS, Sinusitis, rhinitis

PC55 // PEDIATRY // Paediatric ORL
100 newborns with cleft defect operated on in the early post partum period - early detection and study of secretory otitis symptoms
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Introduction. The aim is to detect the first symptoms of the middle ear’s pathology in newborns with cleft defect that were operated on in the early post partum period.

Methods The investigation is conducted using prospective data acquisition.. The first examination of hearing and middle ear is performed one or two days prior surgery. The first phase of the procedure is initiated by ENT specialist who inserts flexible optics and evaluates conditions of torus tubarius. This phase is followed by examination of the ear drum. Actual procedure that is performed by a plastic surgeon follows ““ plastic modification of the lip. Long term monitoring of patients is directed at condition of the middle ear, anatomy of tubéš’s adits and hearing threshold.

Results. Study included 100 newborns 1-10 days old at the day of surgery - 54 cases with cleft lip and palate, 46 with cleft lip. 47 patients with cleft lip and palate were diagnosed with pathology middle ear secretion. All patients with isolated cleft lip had no secretion. Pathological 1000 Hz TM curve in patients with secretion was established in 96. 7 %, 226 Hz TM curve was positive in only 25%.

Conclusions High-frequency tympanometry is reliable method for examination of middle ear cavity in newborns. Occurrence of middle ear effusion is associated with cleft palate. All cases with isolated cleft lip we found without effusion. Presence of middle ear effusion is independent on cleft side or torus tubarius morphology.

Keywords // newborns, cleft lip and palate, otitis media with effusion

PC56 // PEDIATRY // Paediatric ORL
Pre-operative overnight pulse oximetry to predict high dependency unit intervention in children undergo in adenotonsillectomy for obstructive sleep apnoea
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Alder Hey Children’s Hospital

Introduction
Post-operative High Dependency Unit (HDU) beds are often requested for those undergoing adenotonsillectomy for obstructive sleep apnoea (OSA). We evaluated the utilization of HDU beds for such cases at our institution.

Method
A retrospective case note review of patients admitted to HDU following adenotonsillectomy for OSA over a 2-year period was performed.

Results
66 cases were identified. 39 patients had pre-operative overnight pulse oximetry; of these, 30 patients had desaturations noted. Seventeen patients had significant post-operative desaturations. These were predicted in all 11 patients who had undergone pre-operative pulse oximetry. The remaining 6 had not undergone pre-operative pulse oximetry. Nineteen patients required HDU; eight had experienced post-operative desaturations.

Conclusion
HDU care may be required following adenotonsillectomy for OSA. In this study pre-operative overnight pulse oximetry was 100% sensitive at predicting post-operative desaturations, and therefore may aid the appropriate utilization of HDU beds for patients undergoing adenotonsillectomy for OSA.

Keywords // obstructive sleep apnoea, adenotonsillectomy, sleep study, pulse oximetry, HDU

PC57 // PEDIATRY // Paediatric ORL
Endoscopic treatment of vocal cords in children
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Introduction: Vocal cords paralysis is the second most frequent cause of laryngeal stridor in children. Vocal cords paralysis can be unilateral or bilateral. In children unilateral vocal cords paralysis often retreats spontaneously or can be completely compensated. Children with bilateral vocal cords paralysis present mainly breathing disorders while phonation is normal. When symptoms are severe, patients from this group require a surgical treatment.

Objective: The aim of this study is to present results of the treatment of bilateral vocal cords paralysis in children using the endoscopic method of lateralfixation of vocal cords. Material and methods: In the Pediatric ENT
Conclusions: Viral or bacterial rhinosinusitis among children requires an adequate diagnostic and therapeutic algorithm according to EP O5 guidelines.

Keywords: viral cords paralysis, lateralization, laryngeal stridor

PC58 // PEDIATRY // Paediatric ORL
Mucosal inflammatory changes in chronic rhinosinusitis in children
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Aim: To compare the intensity of mucosal changes in CT scans with inflammatory changes in nasal cytology in children with chronic rhinosinusitis without nasal polyps.

Material and method: Seventy seven patients (age 5-18) were included into the study, with 64 patients with chronic rhinosinusitis without polyps in study group and 13 patients in control group.

The intensity of inflammatory changes in computed tomography was evaluated according to Lund MacKay classification. All patients had exfoliative cytology taken from mucosa below middle turbinate. Nasal cytology was examined for percentage of epithelial and alluvial cells.

Results: The results were presented in scatterplots and linear regression was shown between Lund-Mac Kay score and cells found in cytologic examination. Statistically significant correlations were found between columnar epithelial cells, neutrophils and squamous epithelial cells. Decreasing number of columnar epithelial cells and increasing neutrophil count and squamous cell count correlated with increasing intensity of inflammatory changes in CT scans. Eosinophils in nasal cytology did not correlate with inflammatory changes in CT scans in CRS without polyps in children.

Conclusions: Nasal cytology may provide us with data on condition of mucous membrane in patients with CRS in terms of intensity of inflammatory changes. Especially important is decreasing number of columnar epithelial cells constituting the first line immunological barrier.

Keywords: rhinosinusitis, chronic, nasal cytology, children

PC59 // PEDIATRY // Paediatric ORL
RHINOSINUSITIS IN CHILDREN OUR EXPERIENCES
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Introduction: Symptoms of acute rhinosinusitis is nasal congestion, secretion from the nose or flow of secretion down the hind wall of the pharynx, head pressure or headache, olfactory obstruction. The least 2 of those 4 symptoms, for more than 10 days, or worsening of the condition 5 days after first symptoms, and no longer than 12 weeks.

Aims: to show the etiological factors and therapeutic approach.

Method: In January 2010 to January 2012 years, the analytical study included 100 patients diagnosed with acute rhinosinusitis. Their average age was 10.24±2.4 years (5-16). Therapy was anti-microbial with decongestives. Intranasal corticosteroids were applied in 74, in 20 patients as monotherapy. Results: The analysis of frequency of isolated causes showed as statistically highly significant (x²=2,82; DF=2; p>0,05), Streptococcus pneumoniae (34,32%), Haemophilus influenzae (28,12%) Moraxella catarralis (20,52%). The bacteria were isolated in 85 patients, it was not. The noticed difference was statistically significant (x²=28,62; DF=1; p<0,01). The target main symptoms were rhinorhoea and/or post-nasal drip, facial pain or swelling Initial therapy was applied in 15 target therapy in 85 patients. The difference was statistically highly significant (x²=52,32; DF=1; p<0,01). The greatest number of examinees was cured, it was 90 patients (x²=68,59; DF=1; p<0,01).

Conclusion: Viral or bacterial rhinosinusitis among children requires an adequate diagnostic and therapeutic algorithm according to EP O5 guidelines.

Keywords: rhinosinusitis, etiopathogenesis, diagnostics, therapy, children

PC60 // PEDIATRY // Paediatric ORL
Paediatric tracheostomy – an 11 year experience at a Scottish paediatric tertiary referral centre
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Aims: The aim of this paper was to review the indications, complications and outcomes for tracheostomy at a Scottish paediatric tertiary referral hospital.

Methods: All patients undergoing tracheostomy between January 2001 and 1st September 2012 were identified. A retrospective case note analysis was performed.

Results: 122 tracheostomies were done in the study period. The mean number per year was 11 (3-12). Data was available for 61% (n=74) of the patients. 55.4% (n=41) were male and 45.6% (n=33) were female. Average age of tracheostomy insertion was 7.3 weeks (0 days – 15 years). 40 patients were intubated directly prior to tracheostomy. The most common indications for tracheostomy were long term ventilation for chronic lung disease of prematurity 30% (n=22), upper airway obstruction due to a craniofacial abnormality 19% (n=14), bilateral vocal cord palsy 12% (n=9) and upper airway obstruction due to subglottic stenosis 11% (n=8). 39% (n=29) of the patients were decannulated. The average length of time a tracheostomy was in-situ was 27 months. 24% (n=18) of the patients died over the study period, 17 from medical comorbidities and one as a direct result of the tracheostomy tube blockage leading to hypossoxic arrest.

Conclusions: This series reflects current trends in the indications for paediatric tracheostomy, with chronic lung disease of prematurity being the most common indication.

Keywords: tracheostomy

PC61 // PEDIATRY // Paediatric ORL
Failure and complications of supraglottoplasty – a 7 year experience at a Scottish paediatric tertiary referral centre
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Objectives: Assess the outcome and complications of surgical intervention in children with laryngomalacia and identify factors that influence these.

Methods: Retrospective case note review between July 2005 and March 2012 looking at demographic data, symptoms, comorbidities, technique and symptom resolution.

Results: 98 children were diagnosed with severe laryngomalacia and treated with supraglottoplasty. 33.7% (33/98) of cases were females and 66.3% (65/98) were male. Symptoms included apnoea’s (38.7%, 38/98) and failure to thrive (56.1%, 55/98). A bimodal age distribution was observed with peaks at 3 months and 3.5 years. Various techniques were used: cold steel (52%, 51/98), laser (17.4%, 17/98) or a combination (30.6%, 30/98). 49/98 patients (40.8%) were admitted to the HDU post procedure of which 15 were unplanned. 21.4% (21/98) suffered post-operative complications such as haemorrhages, infection and significant laryngeal oedema. 80.6% (79/98) significantly improved after one procedure and 19.4% (19/98) required revision surgery. 26.3% (5/19) of these patients had a previously undiagnosed neurological disorder that came to light as a result of failure to improve after treatment.

Conclusion: Supraglottoplasty was effective for 81% of cases studied and complications arose in 21% in which the majority required admittance to HDU (18/21, 86%). Failure to improve breathing and swallowing post operation should alert the clinician to a possible underlying neurological disorder.

Keywords: supraglottoplasty, stridor,

PC62 // PEDIATRY // Paediatric ORL
Prophylactic antibiotics for coblation tonsillectomy: A prospective observational study
Robert Gunn, Stephen Derbyshire, Stephane Paulus, Sujata De, Ravi Sharma (United Kingdom)
Alder Hey Hospital

Aim: To see whether the use of prophylactic antibiotics post op in paediatric patients undergoing coblation tonsillectomy reduces the rates of secondary haemorrhage or post op infection.

Method: We looked at 2 years of tonsillectomy data finding 472 patients who underwent coblation tonsillectomy. The complications and its rates of those who received prophylactic antibiotics and those who didn't were then compared and analysed.

Results: 201 patients received antibiotics. The rate of secondary haemorrhage and infections were not significantly different between the two groups.

Conclusion: The use of prophylactic antibiotics in children who have coblation tonsillectomy does not improve complication rates and we do not recommend its use routinely.

Keywords // Tonsillectomy, Coblation, Pediatrics, Prophylactic Antibiotics

PC63 // PEDIATRY // Paediatric ORL

EXIT for CHAOS
Stephen Derbyshire, Stephen Derbyshire (United Kingdom)
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Title: EXIT for CHAOS; Emergency Tracheotomy via Ex-Utero Intrapartum Treatment for Congenital High Airway Obstruction Syndrome.

Objectives: We present a case report of pre-natal diagnosis of congenital high airway obstruction syndrome (CHAOS) and its subsequent emergency management due to pre-term labour at 27 weeks. Tracheotomy was performed via an ex-utero intrapartum procedure (EXIT).

Methods: Prenatal images were obtained via ultrasonography and magnetic resonance imaging. Review of current medical literature using PUBMED.

Results: Analysis of literature surrounding EXIT and CHAOS is presented as well the complex logistical requirements for this procedure.

Conclusions: Advances in prenatal imaging have improved the ability to diagnose CHAOS. EXIT offers a safe means of maintaining cerebral perfusion whilst securing an airway. The procedure requires close communication within a multi disciplinary team in the emergency setting.

Keywords // EXIT, CHAOS

PC64 // PEDIATRY // Paediatric ORL

Diagnostic value of chest radiography in children with suspected foreign body aspiration
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Introduction: During the investigation of foreign body aspiration (FBA) plain chest x-ray (CRX) and lateral decubitus CRX with horizontal x-ray beam is done. When FBA is suspected bronchoscopy must be performed. The aim: The aim of this study was to evaluate chest radiography usefulness in children with suspected FBA. Materials and Methods: 67 patients (22 female, 45 male) with suspected FBA were hospitalized in the ENT Pediatric Department between 2008 and 2012. The median age was 2 years. Results: In 80,6% of cases an anteroposterior CRX was done, in 30,1% of cases lateral decubitus CRX was performed. All of the patients underwent bronchoscopy. Foreign body presence was confirmed in 57 cases (56 non-radioopaque bodies, 1 radioopaque body). The most common localization was the right main bronchus (50,8%) and the left one (31,6%). Local complications of foreign body presence in tracheobronchial tree were noted in 52,6% of cases. Conclusions: AP chest radiography has a low specificity. Lateral decubitus chest x-ray can be helpful in FBA diagnosis. The positive history of FBA, especially when there was an episode of cyanosis, should be crucial for decision of performing bronchoscopy. The absence of abnormalities on clinical examination or normal chest X-ray do not exclude foreign body presence in tracheobronchial tree.

Keywords // foreign body aspiration, bronchoscopy, chest X-ray

PC65 // PEDIATRY // Paediatric ORL

The Management of Upper Respiratory Tract Complications Associated with Meningomyelocele and Arnold Chiari Malformation; A Retrospective Review
Stephen Derbyshire, Robert Gunn, Sujata De (United Kingdom)
Alder Hey Hospital

Title
The Management of Upper Respiratory Tract Complications Associated with Meningomyelocele and Arnold Chiari Malformation; A Retrospective Review

Authors
Stephen Derbyshire, Robert Gunn, Sujata De

Objectives
The association of meningomyelocele and Arnold Chiari malformation (ACM) with vocal cord paralysis is well established. It is also now being more frequently recognized, that episodes of apnea and cyanosis can result in significant morbidity. We aim to summarize the experiences of a tertiary referral centre in the United Kingdom in the diagnosis and treatment of upper respiratory complications related to meningomyelocele and Arnold Chiari malformation.

Methods
Retrospective review of 111 patients diagnosed with meningomyelocele and ACM at a tertiary referral center over a 5 year period.

Analysis of Literature surrounding respiratory complication of meningomyelocele and ACM

Conclusions
The management of children with meningomyelocele and Arnold Chiari malformation requires recognition of apnea, both central and obstructive, as well as bilateral vocal cord paralysis. It is of benefit to the patient to have close communication between the neurosurgeons, otolaryngologists and the respiratory team.

Keywords // Meningomyelocele, Arnold Chiari Malformation

PC66 // PEDIATRY // Paediatric ORL

Endonasal Extended Transsphenoidal Approach for Surgical Resection of a Clival Chordoma
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Kings College Hospital

Clival chordoma is a rare bone tumour in children that arises from undifferentiated notochordal remnants. They form along the vertebral axis, with the most common sites being the sacrococcygeal region, skull base, specifically in the clivus, and vertebral column.

Chordomas are slow-growing, but are locally invasive and destructive, to both bone and soft tissue. Their treatment is difficult because they are often diagnosed at a late stage, at which time the tumour is often large.

We present an unusual case of Clival chordoma in a 15-year-old boy who presented with a 3-month history of vomiting and a week history of neurological deficits, including mild left upper limb weakness, slurred speech, left tongue fasciculation and deviation, and nystagmus on right lateral gaze. His MRI scan showed a large mass arising from the clivus, with an anterior extension into the paravertebral muscles and down to the arch of the atlas. The mass was compressing the brainstem and rostral cervical spinal cord.

An extended endoscopic transnasal approach was used to resect the tumour. Histopathology and immunohistochemistry confirmed the diagnosis of a clival chordoma. Macroscopic clearance was achieved, with no new neurological deficit. Patient underwent post operative Proton beam therapy and subsequent follow up failed to reveal any recurrence.

Pre and post treatment images will be presented at the meeting.

Keywords // paediatric skull base tumour, clival chordoma, chordoma

PL01 // HNS // Oncology, head and neck, oral cavity, pharynx and trachea
Do metallic tracheal stents have a role in benign stenosis?

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Background:
The role of stent placement for the treatment of benign airway obstruction is still a controversy. The US Food and Drug Administration (FDA) issued a Public Health Notification recommending against the use of both covered and uncovered self-expanding metallic tracheal stents (SEMTS) for benign lesions unless absolutely necessary. Our aim was to evaluate the safety and efficacy of SEMTS in the management of benign tracheal obstruction.

Methods:
We conducted a 10-year retrospective analysis of patients placed SEMTS (Ultraflexâ"¢C tracheal stents) for benign obstruction at the department of Otolaryngology-Head and Neck Surgery, Alexandria Faculty of Medicine, Egypt.

Results:
Twenty-eight Ultraflex tracheal stents were placed for 26 patients with contraindication for open surgery using the rigid bronchoscope under general anesthesia. Immediate improvement of airway was achieved in all patients. Early postoperative complication in the form of stent migration occurred in 2 patients (7.7%). Late postoperative complications occurred in 18 patients (69%) mainly granulation tissue formation. Ten of them (55.5%) were clinically significant requiring interventional procedure. Two patients (7.7%) required tracheostomy for severe airway obstruction.

Conclusion:
SEMS may be considered in the management of benign tracheal stenosis in inoperable patients.

Keywords // Metallic tracheal stents, Benign stenosis

PL02 // HNS // Thyroid and parathyroids

Management of papillary thyroid microcarcinoma
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The incidence of thyroid cancer increases, while mortality is stable or slightly decreases. This phenomenon is mainly due to increase of frequency of papillary microcarcinomas (less than 1cm) that is attributable to improved accuracy of diagnosis made by ultrasound and fine needle aspiration cytology. Papillary microcarcinomas represent up to 30% of all differentiated thyroid carcinomas. The extent of disease at diagnosis and the histological findings are critical factors that should dictate the therapeutic strategy and follow-up. Without long-term randomized prospective studies it is very difficult to establish which therapeutic approach is better and explains the present uncertainty and controversies. The crucial point is how to manage thyroid micro-nodules incidentally found during neck ultrasound and how to treat them in case of malignancy. Both the American Thyroid Association and the European Thyroid Association recently published the guidelines for diagnosis and therapy of differentiated thyroid cancer. They are aimed to minimize the diagnostic and therapeutic procedures without affecting diagnostic accuracy and the therapeutic effectiveness. It is very important especially for papillary thyroid microcarcinoma that provides the patient with excellent prognosis and almost normal life expectancy.

Keywords // Papillary thyroid cancer, microcarcinoma, thyroidectomy, radioiodine therapy, thyroglobulin

PL03 // HNS // Oncology, head and neck, oral cavity, pharynx and trachea

NON-VESTIBULAR HEAD AND NECK

Schwannomas: A Ten Year Experience
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OBJECTIVES: Schwannomas are rare and slow growing tumours arising from myelin-forming Schwann cells. Although most studies are based on acoustic schwannomas, the majority of these tumours are non-vestibular and extracranial. Up to 45% can be localized in head and neck districts where they represent a diagnostic challenge.

METHODS: Between February 2002 and September 2012, our experience is based on 18 patients affected by schwannomas localized in the neck in 14 cases, in the oral cavity in 2 cases, in the upper lip in one case, and in the nose in one case. A painless neck mass was the major symptom referred, as well as dysphonia and oral pain.

RESULTS: Ultrasound scan with fine needle aspiration biopsy was performed in half of the group, and was diagnostic in 30% of cases. MRI was diagnostic in 77% of patients, confirming its primary role in diagnostic work-up. The surgical approach mainly consisted of cervical incision and intraneural extracapsular enucleation, which was without nerve injury in 89% of cases. Follow-up period was 6 to 120 months during which there was no evidence of relapse.

CONCLUSIONS: From the therapeutic point of view, surgical removal is always valid; however, some aspects such as symptomatology, general condition of the patient, nerve of origin, speed progression of the tumor, and surgical risks must be taken into consideration because they can determine the choice of “wait and see” , surgical enucleation or nerve resection with anastomosis.

Keywords // Schwannoma, painless neck mass

PL04 // HNS // Oncology, head and neck, oral cavity, pharynx and trachea

The Head And Neck Lump Clinic At Warrington General Hospital - The First 7 Months
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“Improving Outcomes In Head And Neck Cancer’ (2004) provides specific guidelines on ‘one stop’ neck lump clinics. These multidisciplinary clinics involve surgeons, radiologists and pathologists. They aim to provide comprehensive investigation and timely diagnosis of any neck lump. Here we audit the first 7 months of such a clinic at Warrington General Hospital. A list of any patient attending the Head and Neck Lump Clinic between November 2013 and June 2012 was generated by Informatics. Medical records were requested and data was collated on demographics, presenting complaint, investigations performed and final diagnosis. 191 new patients were reviewed in the clinic. 138 sets of medical records were available for review. 85 Patients were female and 55 male; average age of 49 years. The main referral sources were General Practitioners and ENT clinics. Neck lump (79%) and oral lesion (8%) were the most common referring complaints. Of the 138 patients, 73% underwent US scanning in clinic and 25% fine needle aspiration biopsy. 32% of patients were discharged at their first appointment. Overall, 18 malignancies were diagnosed. Other final diagnoses included benign lymphadenopathy (27%) and no abnormality (17%). One Stop head and neck lump clinics provide an invaluable service for efficiently diagnosing and managing neck lumps. The majority of previous audits have been conducted in tertiary referral centres; however, our audit provides a district general perspective.

Keywords // One Stop Lump Clinic, Head and Neck Malignancy

PL05 // HNS // Oncology, head and neck, oral cavity, pharynx and trachea

The accuracy of radiological staging in Head and Neck cancer: Are patients being under or over treated?
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University Hospital of Wales

Introduction: In recent years, the use of CT scan and ultrasound scanning of the neck as staging investigations in H & N cancer have become increasingly popular. However, the reliability of these investigations in assessing the presence of metastasis in the neck nodes remains to be fully investigated.

Aim: The study aims to assess if CT scan and/or an ultrasound scan can reliably predict the presence of metastasis in the neck nodes.

Methods: A retrospective study was undertaken of all patients who underwent neck dissection in the University Hospital of Wales between 2007 and 2011 for H & N cancer. Extracted data were assessed for pre-operative radiological staging of the neck (rN) and the post-operative pathological neck stage (pN). Level of correlation of results was assessed using Cohen’s Kappa.

Results: A total of 101 neck dissections were included in the study. CT scan provided accurate staging of the neck in 55% of the patients, up-staged the neck nodal status in 22% and down-staged the neck nodal status in 23% of the patients. Ultrasound scan provided accurate staging of the neck in 58% of the patients, up-staged the neck nodal status in 12% and down-staged the neck nodal status in 30% of the patients.
Conclusion: This study shows that radiological examination is not always reliable in assessing the nodal metastasis. This has consequences in relation to overtreatment patients and causing unnecessary morbidity or under treating patients risking potential recurrence.

Keywords // staging, neck nodes

**PL06 // HNS // Oncology, head and neck, oral cavity, pharynx and trachea**

**Laryngeal Cancer: Survival and Functional outcomes of a**

**Multidisciplinary Team**

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University College London Hospitals NHS Trust

AIMS: We reviewed the Multidisciplinary Team (MDT) decisions in our Head and Neck unit and compared laryngoesophageal dysfunction-free survival (LEDFS) with survival outcomes in those who underwent open surgery.

METHODS: A retrospective case note review was undertaken over a one year period recording TNM stage, MDT treatment decision, 2 and 5 year outcome data. LEDFS outcomes noted were death, local relapse, progression to laryngectomy, tracheostomy, and feeding tube dependence at 2 years.

RESULTS: A total of 35 patients were diagnosed with laryngeal cancer from August 2007 to July 2008. 20% underwent laryngectomy, 14% transoral laser resection, 14% chemoradiation, 54% curative radiotherapy and 14% palliative radiotherapy. There were almost equal numbers of each T-stage. 5 year disease free survival was 71%, of which one third had undergone salvage surgery. 50% had 5 year LEDFS and 43% had 2 year LEDFS. Of total 4 patients had primary laryngectomy and 75% were alive without disease at 2 years.

CONCLUSIONS: The last decade has seen a paradigm shift in the treatment of laryngeal squamous cell carcinoma. Laryngeal preserving chemo/radiotherapy regimens are the mainstay of contemporary treatment but reports of short and longterm toxicity are increasing. We identified that in our MDT a minority undergo primary laryngectomy, but the LEDFS for those who receive other modalities is 50% or less at 2 and 5 years.

Keywords // Laryngeal cancer, laryngectomy, chemoradiation, transoral laser surgery

**PL07 // LARYNGOLOGY // Laryngology**

**Voice Disorder in Professional Classical Singers and Videolaryngostroboscopic Findings.**

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Polyclinic of Specialties Nr 2

Professional voice users often present to otolaryngologists and laryngologists with specific voice complaints. The contributions of pathologic lesions to the patients’ voice complaints are not always clear on examination, and often, premorbid routine examinations of the larynx are not available for review. This study examines the incidence of laryngeal pathology among classical professional singers.Methods: At the State Opera of Tirana, volunteers were recruited for a “free strobvideolaryngoscopic examination.” All volunteers completed a specific detailed questionnaire of their vocal and medical history and underwent strobvideolaryngoscopic examination. After completion of the questionnaire, a rigid videolaryngoscopic examination was performed. All examinations were performed using the Kay® Pentax 70A® rigid telescope and strobolaryngoscopic examinations were completed in 84 volunteers, 28 of whom had voice complaints and 46 of whom perceived their voices to be normal. Singers were asked to report whether they ever had a previously diagnosed voice problem and whether they had any vocal disability within the year prior to the study. Results: Vocal fold masses were common among the asymptomatic professional singers. Evidence of reflux laryngitis was a common finding among both symptomatic & asymptomatic singers. Asymmetries in vocal fold hypomobility were more common among those with voice complaints than was the presence of vocal fold masses in the population studied.

Keywords // Singers, Professional singer, Reflux laryngitis, Vocal fold masses, Videolaryngoscopy, Videostrobolaryngoscopy, Vocal fold hypomobility, Dysphonia-Polyph of vocal cord.

**Surgical management of rhinological aspects of snoring**

*Gorski Norbert, Gorski Norbert (Pologne)*

MML

Sleeping fills almost one third of human life. The most widely known manifestation of sleep disorders and also the most important factor interrupting sleep is snoring - Acoustic phenomena arising during sleep as a result of vibration soft tissues within the throat middle. An extreme manifestation of disordered breathing during sleep apnea is. Snoring is sound made during sleep by the vibration of tissues in the mouth, nose and throat during breathing. Many of patients with OSA, who are diagnosed, often exhibit poor compliance with nightly use of continuous positive airway pressure (CPAP), a very effective nonsurgical treatment. Various surgical procedures have been proposed to manage and, in some cases, treat OSA. A systematic approach to clinical evaluation, treatment planning and surgical management is recommended and is likely to result in more predictable outcomes. Surgical treatment may involve procedures that are performed in different stages depending on the patient's sites of obstruction. The most commonly performed procedures include nasal reconstruction, uvulopalatopharyngoplasty (UPPP), advancement genioplasty, mandibular osteotomy with genioglossus advancement, and hyoid myotomy and suspension. In more severe cases, maxillomandibular advancement (MMA) with advancement genioplasty may be indicated. One of the important causes for snoring is imperfections of the patency of the nasal cavity. Improving the patency of the nose may decrease or solve snoring problem.

Keywords // snoring, OSA, CPAP

**PL10 // LARYNGOLOGY // Laryngology**

**The Diagnostic Value of High Resolution Ultrasonography in the Assessment of Laryngeal Lesions**


Faculty of Medicine, Minia University

Objective: The aim of this study is to evaluate the value of High Resolution Ultrasonography (HRUS) in diagnosis of various laryngeal lesions which already diagnosed with rigid endoscopy.

Study design: - Prospective study with control group

Setting: Minia university hospital, Otorhinolaryngology and phoniatic outpatient clinics. HRUS done at Radiodiagnosis unit

Patients & Methods: 66 Patients were suffering from throat symptoms and pre-examined by rigid endoscopy under local anaesthesia and diagnosed to have a laryngeal lesion and 32 Volunteers compose the control group. All 98 patients (patients & control groups) were examined by HRUS.

Results: HRUS was helpful in describing various laryngeal lesions as vocal fold nodules (13) 19.6%, vocal fold polyps (17) 25.7%, glottic cancer (6) 9.1%, epiglottic enlargement (2) 3.1% and one patient had laryngocle (1.5%). HRUS was highly significant in diagnosis of subglottic lesions (10) 15.2%. Also vocal fold mobility can be demonstrated by HRUS. While interarytenoid lesions (17) 25.8% were difficult to be described.

Conclusion: Rigid endoscopy in laryngeal examination gives us large, bright image but it is difficult to diagnose patients with a sensitive gag reflex, patients with neck or jaw diseases or stridor and very difficult in infants and children. HRUS is an alternative method in diagnosis of some laryngeal lesions, and it is superior in the diagnosis of small subglottic lesions.

Keywords // Laryngoscopy, High Resolution Neck Ultrasonography, Laryngeal Lesions

**PL11 // LARYNGOLOGY // Thyroid and parathyroids**

**Is there survival benefit from life-long follow-up after treatment for differentiated thyroid cancer?**

*Dr. George Garas, George Garas, Ali Qureshi, Fausto Palazzo, Thanos Athanasiou, Emmanouil Zacharakis, Neil Tolley (United Kingdom)*

Imperial College London
Background: The existing guidelines for follow-up in thyroid cancer recommend life-long follow-up as recurrence may present after 5 years. However, the strategy of life-long follow-up for everyone (as advised by the British, European and American Thyroid Association guidelines) is not evidence-based. The issue is that some of the recurrences may present after 5 years and low volume recurrence may be more effectively treated. However, there is no study that reliably shows a survival benefit conferred from life-long follow-up, especially in stage 1 disease. Moreover, the risk of recurrence only parallels the risk of disease-specific mortality in the older thyroid cancer patient group (>45 years at diagnosis).

Objective: To answer the question whether there is a survival benefit from life-long follow-up after treatment for thyroid cancer.

Methods: Systematic review using The Cochrane Controlled Trials Register, Medline and EMBASE databases from 1980 to 2012.

Results: The evidence from the present review supports a risk stratified approach to follow-up for thyroid cancer since low-risk thyroid cancer is associated with low recurrence rates and mortality compared to the other groups.

Conclusion: For young patients (

Keywords: // Evidence-based medicine; Thyroid; Cancer; Survival; Follow-up; Prognosis

PL12 // LARYNGOLOGY // Thyroid and parathyroids
Can pre-operative computed tomography predict the need for a thoracic approach for removal of retrosternal goitre?

Dr. Ali Qureishi, George Garas, Ali Qureishi , Fausto Palazzo, Thanos Athanasiou, Emmanouil Zacharakis, Neil Tolley (United Kingdom)

Imperial College London

Purpose: To answer the question whether in patients with retrosternal goitre the need for a thoracic approach can be predicted using pre-operative CT assessment.

Methods: Systematic review using The Cochrane Controlled Trials Register, Medline and EMBASE databases published from 1980 to 2012. All studies evaluated the role of different pre-operative CT findings in predicting the need for a thoracic approach during surgical planning for retrosternal goitre resection.

Results: Although pre-operative CT does not have the precision to predict whether a thoracic approach is required in all cases, the presence of certain radiological features such as extension of the goitre below the aortic arch or into the posterior mediastinum, a dumbbell shape and a thoracic component that is wider than the thoracic inlet are all associated with the need for a thoracic approach. In posterior mediastinal goitres or those arising from ectopic thyroid tissue which typically are right sided, a lateral larytotomy and not sternotomy is required.

Conclusion: CT represents the gold-standard imaging modality in the pre-operative evaluation of patients with retrosternal goitre and is essential to define the extent and position of the retrosternal goitre. In some cases a pre-operative CT will not only determine that a thoracic approach is mandatory but it will also guide the surgeon upon the type of thoracic approach.

Keywords: // retrosternal; goitre; thyroid; manubriotomy; sternotomy; lateral larytotomy; computed tomography

PL13 // LARYNGOLOGY // Laryngology
Proton pump (H+/ K+-ATPase) expression in human larynx

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Laryngopharyngeal reflux is quite spread, but still not sufficiently investigated disease that is at least partly connected to pathogenesis of other laryngeal diseases. It is generally known to be developed by upward recurrence of acid gastric content, but there are some signs that acid can be produced in larynx as well, because of the proton pump activity in the laryngeal mucosa. There is also quite small number of studies about detailed laryngeal morphometry. Therefore the goal of our study was to investigate laryngeal morphometric correlations and to identify the existence of proton pump in different parts of larynx.

The presence of proton pump was determined by immunochemistry in a group of 50 cadavers and 11 live patients after laryngectomy.

Morphometric analysis showed correlation between measured parameters for better understanding of development of laryngeal parts. The presence of proton pump was proved in seromucous glands in laryngeal supraglottic area, but it is also, for the first time, found in human hondrocytes of thyroid and epiglottic cartilage. These new findings of proton pump expression open the space for additional research, not only of laryngopharyngeal reflux, but also the pathophysiology of cartilaginous disorders.

Keywords: // morphometry, larynx, thyroid cartilage, laryngopharyngeal reflux, proton pump

PL14 // LARYNGOLOGY // Laryngology
Endoscopic arytenoid abduction lateralropexy for bilateral vocal cord immobility - secondary surgery after glottis enlarging procedures with unsatisfactory results

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Primer glottis enlarging surgery sometimes could not provide satisfactory results, the patients might be decannulated, but their quality of life is inadequate. For them a secondary revision operation should be planned. It is questionable which glottis widening method may provide the best results in these severe, complicated cases. In our department the endoscopic arytenoid lateralropexy (EAL) was introduced for both primary and secondary treatment of BVI. In the past years 267 patients were operated. The effectiveness of EAL was demonstrated in cases after failed simple suture vocal cord laterofixation (13 cases), uni- (7 cases) and bilateral arytenoidectomy (3 cases), and open Réthi II operation (4 cases). Spirometric, phoniatric tests and subjective “Quality of Life” questionnaire were used to make results of different approaches comparable. These tests proved that the minimally invasive endoscopic arytenoid lateralropexy might provide satisfactory results even in these severe cases.

Keywords: // vocal cord immobility, glottic stenosis, glottis enlarging procedure

PL15 // LARYNGOLOGY // Laryngology
Exercise induced laryngeal obstruction and laryngeal sensitivity

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Background. One of the possible causes for exercise-induced laryngeal obstruction (EILO) is the laryngopharyngeal reflux (LPR) due to the activation of the abdominal muscles during strain ing. Defective neural control of the larynx is also not excluded as a cause for EILO. The aim of the study was to establish laryngeal sensitivity and possible LPR in a group of youth with EILO.

Methods. In nine boys and 16 girls, all athletes, aged 9-21 years, mean 14.68 years, s.d. 3.21 years, in whom EILO was proved by means of cycloergometry with concomitant laryngeal endoscopy, LPR was established on the basis of the history data and the assessment of the laryngeal mucosa (Reflex Finding Score - RFS). Laryngeal mechanical sensory testing was performed with flexible nasolaryngoscope and air pulse stimulator.

Results. EILO appeared at glottis in 8 subjects, at supraglottis in 12 subjects, and at both levels in 5 subjects. Eight subjects reported esophageal and 10 subjects reported extraesophageal reflux symptoms. RFS>7 was found in 18 subjects. Decreased laryngeal sensitivity was established in 11 subjects out of 18 tested. There was a significant correlation between the RFS score >7 and the laryngeal hyposensitivity (p=0.017).

Conclusions: LPR can change laryngeal sensitivity and consequently cause abnormal laryngeal protective reaction on mechanical and chemical stimuli. A proper diet and antireflux therapy can enable young athletes with EILO to continue with their sport activities.

Keywords: // laryngeal obstruction, exercise, gastroesophageal reflux, sensory testing

PL16 // LARYNGOLOGY // Laryngology
DYNAMIC INTRAOPERATIVE PLANNING IN TRANSORAL LASER MICROSURGERY OF THE LARYNX

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Introduction: One of the main drawbacks in surgical system for laser phonosurgery is the mechanical joystick for laser control. This type of interface and no possibility to personalize the programming capabilities is the major limiting factor for improved surgical precision, quality and safety, requiring extensive surgeon practice.

Material and methods: A new robotic system was designed to overcome these drawbacks with a more ergonomic, intuitive and programmable surgical laser control device via touch interface with dynamic intraoperative planning capabilities.

The system is based on a large-scale laser scanner fully controlled by a stylus on a tactile sensor. It gets to aim the laser in real-time over the whole surgical field and allows path memorization letting accurate repetitions of surgeon-defined laser paths. This enables pre-execution surgical action tracking and unmatched control for long cuts. Paths of any shape and length are dynamically planned too with the plain stylus device.

Results: Preliminary trials on ex-vivo swine larynxes and artificial targets have assessed the new system as highly intuitive, effective and safe. Drop of 80% in max absolute error and about 50% in RMS error were shown with the stylus interface in path-follow trials. Dynamic planning has demonstrated its benefits: no error was observed in trials, getting only 0.3mm mean RMS error under a40x microscope magnification. The research leading to these results has received funds from the ÆµRALP European project.

Keywords // voice, presbyphonia

Trends In Parathyroidectomy In England And Wales Over The Last Decade. A Review Of Uptake And Demography Using A Linear Regression Model.
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Background: Consensus guidelines on the management of asymptomatic primary hyperparathyroidism have recommended a more liberal approach to parathyroidectomy. Also with the advent of minimally invasive techniques, experts now recommend intervention in the very elderly. This study examines if these factors have led to increased rates of parathyroidectomy over the last decade.

Methods: Analysis of Health Solutions Wales-PEDW and English Hospital Episode Statistics-HES data for admissions/100,000 population for parathyroidectomy (OPCS codes B14.1-B14.9) from 2000-2010. Statistical analysis was by linear regression.

Results: From 2000-2010 there were 24247 parathyroidectomies in England and Wales. (0.005% of the population, female:male 3:1). Overall, incidence of parathyroidectomy rose from 3.2/100,000 population in 2000 to 5.7/100,000 in 2010.

Keywords // Parathyroid, incidence

Implications of the external and individual factors in the genesis and management of advanced larynx neoplasms
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Background. Larynx carcinoma represents one of the most frequent tumors of the head and neck. There are a lot of environmental and life factors involved in the larynx cancer etiopathogenesis.

Material and Method. The purpose of this paper was to point out the main factors that influence the evolution, prognostic, management, as well as the life quality of the patients which took part at this study.

Results. The external factors, environmental and life factors (excess of alcohol, cofee, welfare, diet, professions) were found to influence the prognosis of the advanced larynx carcinoma patients. A correct management of these cases would allow to ensure a better quality of life, even if the care management of these patients often leads to ethical conflicts with direct effects on patient satisfaction.

Conclusions. It was difficult to apply a standard therapy because the extension of laryngeal cancer in stages III - IV required complex oncological solutions.

Keywords: environment, external factors, larynx carcinoma, therapeutic management

LARYNGEAL MORPHOLOGICAL CHANGES DUE TO GASTRO-ESOPHAGEAL REFUX DISEASE (GERD)
mean pH values and RYAN score, after the extraction of meals, as appropriate.

Probe pHmetry, according to the indications. Diagnosis was made according to LPR, with the majority of the patients having a combination of pharyngo-

Godinne Romania

Besides smoking and excessive alcohol intake, GERD is a determining factor of reflux severity, as calculated by RYAN score.

accurate diagnosis of LPR, confirming either the need or the effectiveness of treatment and oncologic results in patients with glottic carcinoma treated by CO2 laser surgery. Material and Methods: Between 1998 and 2007, in the ENT Department Timisoara, 288 patients with glottic carcinoma T1a, T1b, T2 and N0, were treated by endoscopic CO2 laser surgery. Endoscopic laser CO2 surgery was the primary and solitary management for curative resection of the glottic carcinoma. We performed four types of cordectomy, depending on the stage of tumor. Postoperative control examination included video-endoscopy procedures and neck ultrasonography for early detection of cancer recurrence. Results: In our experience tracheotomy was not required. The mean follow-up was 36 months, range 12 to 48 months. The oncologic results at 36 month showed no recurrence of disease in 93.1% of cases. The vocal results obtained in our series were very good. Conclusions: Endoscopic CO2 laser surgery represent an efficient treatment method with superior oncologic and functional results, compared to conventional surgery. The oncologic radical character was achieved only when the indications, concomitance of GERD in professional voice users with dysphonia.

PL22 // LARYNGOLOGY // Laryngology

Efficacy of LPR diagnosis with the oropharyngeal pH monitoring system: retrospective data of a 2 years’ study

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Sixty-five patients who underwent 24-hour oropharyngeal pH monitoring with the Restech Dx-pH SystemTM, were retrospectively studied. The main indication for the oropharyngeal pH study was the presence of ENT signs and symptoms of LPR, with the majority of the patients having a combination of pharyngo-

Results: In our experience tracheotomy was not required. The mean follow-up was 36 months, range 12 to 48 months. The oncologic results at 36 month showed no recurrence of disease in 93.1% of cases. The vocal results obtained in our series were very good. Conclusions: Endoscopic CO2 laser surgery represent an efficient treatment method with superior oncologic and functional results, compared to conventional surgery. The oncologic radical character was achieved only when the indications, concomitance of GERD in professional voice users with dysphonia.

PL23 // LARYNGOLOGY // Laryngology

Tissue Engineered Airway Mucosa: A Systematic Review

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Effective treatments for long segment tracheal stenosis or severe laryngeal scarring are suboptimal or lacking. Tissue engineered airway implants provide a potential solution but are limited by poor mucosalization after transplantation. This review examines the current literature on engineered airway mucosa to assess the success of this technology, its application to airway implants and the direction of future research. A systematic review of the literature was performed searching Medline (1996 - December 2011) and Embase (1980 ** December 2011) using search terms “tissue engineering” or “tissue” and “engineering” or “tissue engineered” and “mucous membrane” or “mucous” and “membrane” or “mucosa”. Original studies utilising tissue engineering to regenerate airway mucosa within the larynx or trachea in animal models or clinical trials were included.

719 papers matched the search criteria with 23 fulfilling the entry criteria. 18 investigated mucosal engineering in the trachea and main bronchi (four in man) and five within the larynx. The review demonstrated how an intact mucosal layer protects against infection and suggests a role for fibroblasts in facilitating epithelial regeneration in-vitro. A range of scaffold materials were used but no one material was found to be superior. The review highlights gaps in the literature and recommends future research should be directed in several key areas such as epithelial tracking and the role of the extracellular environment.

Keywords // Professional voice users, GERD, Dysphonia
PL27 // LARYNGOLOGY // Laryngology

Rare tumors of the larynx. Overview.
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Background: A rare disease is a pathologic condition that affects 1 patient every 2000 people. Rare tumors of the larynx account for 2-3% of all malignant tumors of the larynx. This pathology has non-specific symptoms, the diagnosis usually being made after the histopathological examination. Some tumors of the larynx are so rare that they may never be diagnosed by most specialists in a life-time of medical practice.

Material and methods: In the E.N.T. Department of Coltea Clinical Hospital we conducted a retrospective study between 1993 and 2007 on patients with malignant neoplasia of the larynx. We recordede an average of 160 larynx cancer patients that were operated on, from whom 38 cases represented cases of rare malignant tumors of the larynx. We analysed the risk factors that lead to the appearance of the malignant process in the larynx. Along side with these tumors we operated on some 31 cases of benign tumors of the larynx. The confirmation was by histopathology examination.

Conclusions: The data from our study resembles the data from the specialty literature. The diagnosis was in all cases histopathological and the patients received a multimodal onco logical therapy.

Keywords // malignant neoplasia, late stage, research

PL28 // LARYNGOLOGY // Laryngology

Organic, Functional and Organic-Functional dysphonia: Analysis of acoustic parameters and subjective voice test
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University Hospital Principe de Asturias

Introduction: Patients with similar laryngoscopic laryngeal dysfunction may perceive the severity of their voice disorder in a different way. We pretend to assess differences in the voice in patients with organic (Od), functional (Fd) and organic-functional (Ofd) dysphonia and to analyze whether there is a correlation between subjective evaluation tests of voice and acoustic objective parameters.

Methods: We performed a cross-sectional study with 90 patients (69 women, 21 men). According to the etiology of dysphonia distinguished three groups (n=30): Od, Fd and Ofd. All patients underwent a phonorespiratory assessment (maximum phonation time: MPT), psychoacoustics subjective assessment (Voice Handicap Index:VHI and GRABS scale) and acoustic analysis: frequency (Fo), jitter (J), shimmer (S), harmonic noise ratio (HNR) and spectrogram. Data were analyzed using the Kruskal-Wallis test and Spearman correlation coefficient using SPSS 16.0.

Results: No statistically significant differences were found between groups in different parameters except in the women Fo (p=0.012). We found an inverse correlation between GRABS and MPT (r = -0.723, p < 0.05). A real or apparent increase is debated. Literature from the USA suggests greater diagnostic scrutiny, environmental and genetic factors may all play a part. This increase will result in a greater number of referrals for surgical assessment. This study examined the trend in incidence of thyroid cancer in England and Wales.

Method: A retrospective study, using the HES database over the period 2000-2010. Data were extracted of all newly diagnosed thyroid cancers in England and Wales and the age at diagnosis. Data were examined for the change in incidence of thyroid cancer diagnosis dependent on the age group of the patient using the linear regression model.

Results: 45411 patients were identified. In England the incidence of thyroid cancer rose from 5.7/100,000 of the population in 2000 to 9.9/100,000 in 2010 and in Wales it rose from 3.5/100,000 in 2000 to 7.5/100,000. There was a statistical increase (P<0.01) (t-stat >2) in the diagnosis of thyroid cancers across all age groups with exception of the 0-14 age group (P>0.5).

Conclusions: There has been a statistical increase in the incidence of thyroid cancer. This is likely to impact on hospitals and cancer service resources. An increase in surgical demand and the coinciding ageing population, highlights the importance of further investigation into the etiology, use of imaging, patient demographics, histology and overall mortality of this patient group.

Keywords // Thyroid cancer, incidence.

PL33 // LARYNGOLOGY // Laryngology

A new staging system for early glottic cancer recurrence
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First Clinic of Otolaryngology, Head and Neck Surgery
Background. We assess the realiability of three different re-staging systems in early glottic cancer recurrence and purpose a new re-staging model based on our personal experience.

Methods. A review of 163 patients with early glottic cancer recurrence (107 T1, 56 T2) were re-staged according to rTNM, CRLSS and CRLSS-2 systems. A new classification according to TNM of the original lesion and rTNM, was done identifying: up-staged, down-staged and same-staged lesions. The ability to stage cured patients and to predict disease-free and overall survival for each re-staging systems were compared by Cox proportional hazards analysis. Additionally, as a measure of concordance, the c-statistic model was used. Results. According to Cox analysis patients survival was better predicted by the rTNM system (p=0.002), than by CRLSS and CRLSS-2 (p=0.939 and p=0.555, respectively). Our system showed a statistically significant in predicting disease-free survival (p=0.01), while its prognostic value in terms of overall survival was less evident (p=0.05).

Conclusions. The rTNM staging system is the most accurate model to stage early glottic cancer recurrences, CRLSS and CRLSS-2 are less reliable. Our system helps in identifying patients at higher risk of recurrence when a surgical salvage strategy would be attempted. The combination of rTNM and up/down/same staging systems, might be useful in planning surgical therapy for early glottic cancer recurrence.

Keywords: // glottic cancer recurrence, restaging system,

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**PL34 // LARYNGOLOGY // Thyroid and parathyroids**

Management of thyroid cancer with gross angioinvasion — Surgical technique and outcomes


Guy’s Hospital London

Introduction

Gross vascular invasion by thyroid carcinoma (TC) is very uncommon and usually has a very poor prognosis. The aim of this paper is to describe the clinical presentation, diagnostic difficulties, management, surgical technique and outcome of this presentation.

Methods

Retrospective review of 4 patients with TC that presented with gross invasion of the internal jugular (IJV) and brachiocephalic vein (BCV) presenting to the Head and Neck Unit at Guy’s and St Thomas’ Hospital NHS Foundation Trust, London between 2000 to 2012. Patients were investigated with TTF, Ultrasound-FNAC, CT and MRI.

Results

Four consecutive patients with TC were included. Age ranged between 36 and 86 years. All patients were treated with total thyroidectomy and excision of the intravascular neoplastic thrombus. One patient required total laryngectomy for laryngeal invasion. Three patients underwent selective neck dissections and excision of the IJV. The histological analysis showed poorly differentiated TC in 3 patients and papillary TC in one. Three patients received post-operative radioactive iodine and TSH suppression. One patient died of distant metastasis 10 years from presentation.

Three patients are alive, one with distant metastasis, one just completed radioactive iodine ablation and one just completed surgical resection.

Conclusion

The management of TC with gross angioinvasion is still controversial due to its rarity. Treatment including total thyroidectomy, excision of the intravascular thrombus with or without resection of the involved vessel is advisable. This should be followed with radioactive iodine and TSH suppression. Despite of best efforts the prognosis of these patients is very poor.

Keywords: // thyroid cancer, gross angioinvasion, surgical technique, outcome

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**PL35 // LARYNGOLOGY // Laryngology**

Tracheostomy at a tertiary referral hospital: a prospective evaluation of percutaneous methods and the impact on surgical experience of otolaryngology- head & neck trainees.

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Nottingham University Hospitals NHS Trust

Background. Percutaneous tracheostomy (PT) has gained acceptance as an alternative to surgical tracheostomy (ST). A trend toward bedside PT in adult intensive care units has impacted training for otolaryngology residents, which may reduce emergency surgical airway skills.

Objectives: To measure tracheostomy incidence and technique, and to consider the impact on surgical experience and training.

Methods: A prospective cohort study of patients undergoing PT was undertaken. Incidence, demographics, technique and PT complications were collected. Surgical data was collated from operating room logs.

Results: Between December 2010 and June 2012 a total of 396 adult tracheostomies were performed. In total, 292/396 (74%) patients had PT and 104/396 (26%) ST. PT was performed a median of 6 days following invasive ventilation. Major complications occurred in 4/292 (1%) patients: 2 major bleeds, 1 tension pneumothorax, and 1 patient had a PT through the criocid cartilage. Thirty-four of 104 ST (33%) were ICU patients not suitable for PT. Of all ICU tracheostomies 34/326 (10%) were not suitable for PT.

Conclusions: PT is safe and replaces the need for ST in 90% of ICU patients requiring tracheostomy. This results in a 74% reduction in surgical cases. Current ENT training paradigms do not account for these changes in practice. We suggest ENT trainees, as "airway experts", become proficient with PT in addition to adopting alternative models of surgical airway training.

Keywords: // Percutaneous tracheostomy, surgical tracheostomy, airway, training

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**PL38 // LARYNGOLOGY // Phoniatrics**

Assessment of a condition of vegetative nervous system of patients with dysphonia

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Federal Research Clinical Centre of otorhinolaryngology of Russian Federation

Purpose: to research interrelations between voice disorders and neurovegetative liability

Methods: 67 patients with organic and nonorganic dysphonia, 31±9 years old. Functional condition of the larynx and expression of the voice disorders were estimated by the endoscopic high speed imaging, videolaryngostroboscopy and acoustic voice analysis. The vegetative phone was characterized in terms of condition in the segment and above-segment areas by monitoring of the heart rhythm variability.

Results: the present research has proved an available tension of compensatory **“** adjustment regulatory mechanisms and reduced activity of the symptomatic center. Moderate predominance of the sympathetic nervous system was diagnosed for >9,7%. In 26,3% cases revealed was the vegetative dystonia, and in 16,1% **“** the reduced vasomotor center. For voice professional users with the
Laser debulking surgery in acute airway obstruction
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Barts Health NHS Trust

Introduction
Conventional treatment for acute upper airway obstruction is tracheostomy, which is a safe, definitive procedure, but some potential morbidity. Alternatively a debulking procedure can be used but requires surgical and anaesthetic skill and experience. However, it has the advantage of removing the cause of obstruction and yielding tissue for histology, and potentially avoids tracheostomy associated morbidity.

Methods
We retrospectively evaluated patients who presented with acute upper airway obstruction and underwent laser-debulking surgery over a 3year period. We recorded patient demographic data, underlying pathologies, number of debulking procedures, complications and the conversion rate to tracheostomy.

Results
30 consecutive patients including 18 males and 12 females, with a mean age of 60 years (25 - 92 years) were studied. All patients underwent debulking procedures with carbon dioxide laser under general anaesthetic. All had their underlying diagnosis confirmed from the debulking surgery. 13 patients had benign pathology and 17 had malignant airway obstruction. There were no laser-associated complications and none required conversion to emergency tracheostomy.

Conclusion
We describe our experience of laser debulking surgery to establish a safe airway. It allows a histological diagnosis as part of the same procedure, and therefore prompt commencement of treatment for malignant cases. It has obviated the need for emergency tracheostomy in our patient cohort.

Keywords: laser debulking, tracheostomy, airway obstruction

Laryngopharyngeal Reflux and Its Correlation with Ambulatory PH Monitoring
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Introduction
Gastro-oesophageal reflux is now well recognised to be associated with several extraesophageal symptoms, including a variety of laryngeal symptoms which may manifest from laryngopharyngeal reflux (LPR). 24 hour pH monitoring is considered the gold standard for diagnosis of typical reflux. However, its diagnostic value for extraesophageal presentations remains controversial. We aimed to gain further diagnostic and pathophysiologic knowledge, by prospectively evaluating patients who presented with LPR, with ambulatory 24hour pH-monitoring. We subsequently introduced an algorithm to standardise our management approach for these patients

Keywords: Laryngopharyngeal Reflux, Globus Pharyngeus

Suture of the mucosa after the endoscopic LASER-Mucotomy of ZenkerÂ’s diverticulum
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Introduction
The treatment of choice of ZenkerÂ’s diverticulum is the rigid endoscopic mucotomyÂ–amy. At our ENT-Department we usually perform an endoscopic suture of the mucosa after the myotomy. Methods: we treated 36 patients for a ZenkerÂ’s diverticulum. We used the classification of Brombart to determine the size of the diverticulum. Surgery was performed as an endoscopic
LASER mucosotomy with suturing of the mucosa or as an open approach with diverticulotomy and myotomy. Patients were phoned to ask for their complaints postoperatively. The symptoms were classified using a scale from 0 (no complain) until 10 (same or more complainst than before the surgery). Results: The distribution of the diverticulum’s size were: 1 patient Brombart I; 6 patients Brombart II; 15 patients Brombart III and 14 patients Brombart IV. 2 patients did not undergo surgery. In 29 patients we performed an endoscopic operation and 5 patients underwent an open approach. The scale of postoperative complaints was the following: 17 patients (0/10), 12 patients (1/10 or 2/10), 1 patients (3/10), 1 patient (6/10) and 1 patient (10/10). None patient suffered from severe complications like mediastinitis, pneumonia, etc. Conclusions: In 85% of the patients an endoscopic approach could be performed. Postoperatively 94% of the patients didn’t have any or just mild complaints. The risk of severe complications or recurrence of the diverticulum is low. The suture of the mucosa might reduce the risk for infections.

Keywords // Znaker diverticulum; dysphagia

PL44 // LARYNGOLOGY // Phoniatrics

FREQUENCY OF HISTOPATHOLOGICALLY VERIFIED VOCAL CORD POLYPS IN RELATION TO THE LESION DISTRIBUTION ON THE VOCAL CORDS, OUR THREE YEAR EXPERIENCE

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Common benign lesions in the larynx are polyps of the vocal cords. Despite the modern diagnostics and great experience of otolaryngologists doctors, it is known to happen that experienced otolaryngologists use different term to mark the same lesion. Precise clinical diagnosis is important to make decisions about further treatment. Layered histological structure of the vocal cord is highly adapted the vibrations because all of it’s elements placed in parallel with its free edge. Most of vibration is carried out primarily in mucose, while the vocal muscles are less vibrant. In order to fully understand the changes that occur in the vocal cords in certain pathological conditions, it is necessary to vocal cord reacts during the phonation process. The main mechanism of creation of functional damage to the vocal cord is the excessive pressure during the collision between the vocal cords while in phonics, which may occur between membranous parts of the vocal cords and vocal extensions.

Functionally-traumatic lesions voices usually occur in regions of their most active segment during phonics, and that is a combination of front and middle thirds, slightly below the free edge of the voices. This is the place that is most commonly subject of traumatical changes.

Keywords // papyp, vocal cord, frequency, distribution

PL46 // LARYNGOLOGY // Laryngology

Tissue Engineered Airway Mucosa: A Systematic Review

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Effective treatments for long segment tracheal stenosis or severe laryngeal scarring are suboptimal or lacking. Tissue engineered airway implants provide a potential solution but are limited by poor mucosalization after transplantation. This review examines the current literature on engineered airway mucosa to assess the success of this technology, its application to airway implants and the direction of future research.

A systematic review of the literature was performed searching Medline (1996 - December 2011) and Embase (1980 ** December 2011) using search terms “tissue engineering” or “tissue” and “engineering” or “tissue engineered” and “mucous membrane” or “mucous” and “membrane” or “mucosa”. Original studies utilizing tissue engineering to regenerate airway mucosa within the larynx or trachea in animal models or clinical trials were included.

719 papers matched the search criteria with 23 fulfilling the entry criteria. 18 investigated mucosal engineering in the trachea and main bronchi (four in man) and five within the larynx. The review demonstrated how an intact mucosal layer protects against infection and suggests a role for fibroblasts in facilitating epithelial regeneration in-vitro. A range of scaffold materials were used but no one material was found to be superior. The review highlights gaps in the literature and recommends future research should be directed in several key areas such as epithelial tracking and the role of the extracellular environment.

Keywords // Airway, Tracheal Stenosis, Tissue Engineering, Regenerative Medicine

PL47 // LARYNGOLOGY // Laryngology

Airway Stents In Benign Central Airway Obstruction: A Systematic Review

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University College London

Airway stents are indicated in benign central airway obstruction as a temporising measure before definitive treatment can occur or as a long-term solution in cases where definitive treatment is not possible. The choice between metallic and silicone stents in benign airway disease remains controversial with a wide variation in practice internationally based on the individual advantages and disadvantages of each stent class.

Databases searched were Medline (1996 - September 2011) and Embase (1980 – September 2011) using search terms “airway” or “tracheal” or “bronchiole” and “stent” or “stening” or “stents”. Inclusion criteria were English language papers reporting original human adult studies on the outcomes of airway stenting to treat benign central airway obstruction in series including more than ten patients.

394 articles matched the search criteria and 22 met the entry criteria. Of the 22, nine reported outcomes with metallic stents and 13 with silicone stents. The major complication rate was higher in the metallic stent group (mean 64%) compared to the non-metallic group (mean 29%) with three of the nine studies recommending against the use of metallic stents in benign disease and two studies recommending metallic stents only be used as a last resort. The migration rate varied from 3-65% (mean 14%) with metallic stents and 5-75% (mean 30%) with silicone stents. The practice of securing non-metallic stents with sutures was not observed in any study.

Keywords // Airway Stent, Tracheal Stenosis

PL48 // LARYNGOLOGY // Laryngology

An unusual curable cause of bilateral vocal cord paralysis: Impacted denture in the hypopharynx

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Aberdeen

Aims: To present and raise awareness about a case of bilateral Vocal Cord(VC) paralysis associated with impaction of a denture plate in the hypopharynx.

Methods: Case report with literature review

Results: An 82 year old Caucasian male presented with aspiration pneumonia, hoarseness, weight loss and four weeks history of high dysphagia for solids. Trans-nasal pharyngo-laryngoscopy revealed right vocal cord palsy with pooling in the hypopharynx. CT scan of neck showed diffuse thickening and ulceration of the hypopharynx raising a suspicion of hypopharyngeal malignancy. The patient missed urgent barium swallow and at 2 weeks review reported worsening of his symptoms and bilateral VC paralysis was documented on examination. Direct pharyngo-laryngoscopy under general anaesthetic revealed a denture plate with attached three teeth and metal wires embedded in the post cricoids region. The patient made a good recovery, he confirmed complete resolution of his dysphagia and regained normal mobility of both vocal cords. He admitted losing his dentures prior to the onset of his symptomatology.

Conclusion: Denture impaction in the hypopharynx can cause bilateral vocal cord paralysis. A high index of suspicion should be maintained in patients using dentures presenting with a new onset dysphagia particularly when the clinical history is vague.

Keywords // Dysphonia,Dysphagia,Vocal cord paralysis, Foreign body in pharynx,Foreign body in oesophagus

PL49 // LARYNGOLOGY // Laryngology

Post-tonsillectomy bleeding: effective countermeasures

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INTRODUCTION
Oral cavity squamous cell carcinoma (OCSCC) with lymph node metastasis confers a significantly worse prognosis hence surgical management usually involves a neck dissection, with often excision of the submandibular gland (SMG) along with level I neck nodes. The aim of our study was to determine the incidence of pathological SMG involvement in OCSCC patients undergoing a neck dissection.

METHODS
Retrospective analysis identified 120 patients with newly diagnosed OCSCC who underwent either a selective or modified radical neck dissection at our institution over a 9-year period. Pathological reports were examined to determine the incidence of SMG involvement in level I of the neck. Statistical analysis was performed using PASW Statistics 18.

RESULTS
Pathological SMG involvement was found in 1.7% of patients, all of which had advanced disease (T4) at presentation. Two year and five-year disease-free survival for the whole group was 65% and 55% respectively. The patients with SMG involvement had a 50% and 0% survival at two and five years respectively.

CONCLUSIONS
SMG invasion in OCSCC appears to be a rare event. SMG preservation during neck dissection should be considered, to minimise the morbidity from xerostomia, if there is no pre-operative indication of gross glandular invasion on clinical or radiological assessment.

Keywords // post tonsillectomy bleeding, children

PLS0 // LARYNGOLOGY // Thyroid and parathyroids
The effect of embolization for skeletal metastases of follicular thyroid carcinoma
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The technique of selective embolization has been applied for years in the treatment of vascular anomalies, severe hemorrhage and benign or malignant tumors. Skeletal metastatic tumor is a massive hemorrhagic tumor. We describe two patients with metastasized follicular thyroid carcinoma with neuromuscular symptoms, due to unusually located large skeletal metastasis in shoulder and sternum, respectively. Before the operation, selective catheterization of the arteries feeding the metastases was performed, followed by infusion of polyvinyl alcohol particles (Ivalon). The procedure was technically successful in all patients without adverse effects and bleeding. We completed resection of skeletal metastatic tumor without massive bleeding.

Keywords // Embolization, Skeletal metastatic tumor

PLS1 // LARYNGOLOGY // Thyroid and parathyroids
Trends In Parathyroidectomy In England And Wales Over The Last Decade. A Review Of Uptake And Demography Using A Linear Regression Model.
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Background: Consensus guidelines on the management of asymptomatic primary hyperparathyroidism have recommended a more liberal approach to parathyroidectomy. Also with the advent of minimally invasive techniques, experts now recommend intervention in the very elderly. This study examines if these factors have led to increased rates of parathyroidectomy over the last decade.

Methods: Analysis of Health Solutions Wales-PEDW and English Hospital Episode Statistics-INES data for admissions/100,000 population for parathyroidectomy (OPCS codes B14.1-B14.9) from 2000-2010. Statistical analysis was by linear regression.

Results: From 2000-2010 there were 24247 parathyroidectomies in England and Wales (0.005% of the population, female:male 3:1). Overall, incidence of parathyroidectomy rose from 3.2/100,000 population in 2000 to 5.7/100,000 in 2010 (P

Keywords // Incidence, primary hyperparathyroidism

PLS2 // LARYNGOLOGY // Laryngology

Incidence of pharyngocutaneous fistula after total laryngectomy
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Pharyngocutaneous fistula (PCF) is most common complication after total laryngectomy. The aim of study is to determine the incidence of PCF after total laryngectomy and to analyze predisposing factors. We made a retrospective study of a series of 75 cases of laryngeal carcinoma. We studied number of factors that could influence the fistula formation. In 48 cases the procedure was combined with partial pharyngectomy and neck dissection. Feeding tube was used in postoperative period in all patients. In the cases of PCF we considered the postoperative period in which it was diagnosed, duration, period of hospitalization, as well as therapeutic approach and result of treatment. PCF was diagnosed in 19 patients (25.68%) with an average time of 9.4 days from surgery. There was no statistically significant association between fistula development and age, gender, tumor site of associated neck dissection. Patient that were previously treated with radiotherapy or had tracheotomy presented higher fistula incidence (60%) compared to those without these procedures. Spontaneous closure was noted in 6 patients (31.6%) and the mean hospitalization time was 56 days. Seven patients (36.84%) required surgical closure by direct suture of the pharyngeal mucosa. Pectoralis major myocutaneous flap was used in 5 patients (26.32%). We concluded that the main risk factors associated with fistula formation is the extension of neck surgery as well as previous radiotherapy or tracheotomy.

Keywords // Pharyngocutaneous fistula, risk factors

PLS3 // LARYNGOLOGY // Thyroid and parathyroids
Synchronous multifocal medullary and papillary thyroid carcinoma: report of a case
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Introduction: Papillary carcinoma (PTC) is the most common malignancy of the thyroid gland, whereas medullary thyroid carcinoma (MTC) accounts for 5-10% of cases. Multifocality of both entities in the same thyroid gland is very rare. Materials and methods: Case report of a 39 year-old woman who underwent ultrasound of the thyroid gland, revealing two nodules in each lobe, with a diameter of less than 1 cm each one of them. Due to an increased calcitonin level and elastographic findings suspicious for malignancy, a total thyroidectomy was performed with central neck department lymph node dissection. Results: Histopathological examination demonstrated two focuses of medullary carcinoma and two focuses of papillary carcinoma. None of the lymph nodes was infiltrated. Subsequently, the patient underwent radioiodine treatment due to multifocality of the papillary carcinoma. Conclusions: Thyroid cancer is the most common endocrine malignancy. Concurrence of papillary carcinoma in patients with medullary carcinoma ranges from 14% to 19%. However, multifocality of both medullary and papillary components is an extremely rare entity. The concurrence of papillary and medullary thyroid carcinoma is an interesting phenomenon due to the different embryological origin of these tumors.

Keywords // Thyroid gland; medullary carcinoma; papillary carcinoma; elastography

PLS4 // LARYNGOLOGY // Laryngology
LEFT ARYTHEOIDS CHONDROMA “rare” CASE PRESENTATION
HORHAT DELIA, MARIAROA POENARIU, DOROȘ CAIUS, IOVANESCU GEORGHE,ŞTEFANESCU Horatiu, BARILICA NICOLAE, MIHAELA PRODEA, MARIAROA DOBRE, ANA - MARIA STANESCU, SARAU CRISTIAN (Romania)
UNIVERSITY OF MEDICINE AND PHARMACY "VICTOR BABES"TIMISOARA

BACKGROUND
The laryngeal chondroma is a rare tumor, with slow growth, which usually (70% of all cartilage. Less often, it can appear at the thyroid cartilage (20% of the cases), or at th MATERIAL AND METHOD
During 2000-2011, in the Timisoara ENT (Ear, Nose and Throat) Clinic, 6 cases of l (66.66%) the tumor was found on the cricoid cartilage, in 1 case (16.66%) it was foi the arytenoid cartilage.
RESULTS
The patient N.D., 55 years old, presented to our clinic with persistent dysphonia and dyspnea. The complete ENT examination and the MRL (Magnetic Resonance Imaging) showed the existence of a tumor on the left arytenoid cartilage. The diagnosis was confirmed by the appointment of interferon inducers. The use of surgery alone does not solve the problem of therapy, as well as the most pathogenetically justified is the use of interferon (IFN). Effective cure is Amiksin - interferon inducer. Results and discussion. We studied the serum concentration of IL-6 and interferon - alpha (IFN-alpha). Comparative analysis of IL-6 in children within groups revealed a significant difference in the values of the control group (p

Keywords // laryngeal papillomatosis, children, Amiksin

PL58 // LARYNGOLOGY // Thyroid and parathyroids
Trends in the incidence of thyroid cancer in England and Wales over a ten year period.
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Background: The incidence of thyroid cancer has increased worldwide, whether a real or apparent increase is debated. Literature from the USA suggests greater diagnostic scrutiny, environmental and genetic factors may all play a part. This increase will result in a greater number of referrals for surgical assessment. This study examined the trend in incidence of thyroid cancer in England and Wales.

Methods: A retrospective study, using the HES database over the period 2000-2010. Data were extracted of all newly diagnosed thyroid cancers in England and Wales and the age at diagnosis. Data were examined for the change in incidence of thyroid cancer diagnosis dependent on the age group of the patient using the linear regression model.

Results: 45411 patients were identified. In England the incidence of thyroid cancer rose from 5.7/100,00 of the population in 2000 to 9.9/100,000 in 2010 and in Wales it rose from 3.5/100,000 in 2000 to 7.5/100,000. There was a statistical increase (P=0.02) [t-stat >2] in the diagnosis of thyroid cancers across all age groups with exception of the 0-14 age group (P=0.5.)

Conclusions: There has been a statistical increase in the incidence of thyroid cancer. This is likely to impact on hospitals and cancer service resources. An increase in surgical demand and the coinciding ageing population, highlights the importance of further investigation into the etiology, use of imaging, patient demographics, histology and overall mortality of this patient group.

Keywords // Thyroid cancer, incidence.

PL59 // LARYNGOLOGY // Laryngology
Intraoperative use of NBI HDTV magnifying endoscopy
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Introduction
NBI (Narrow Band Imaging) is endoscopic method which helps to visualize vascular changes typical for mucosal neoplastic changes. Combination of NBI with HDTV and magnifying endoscopy increases sensitivity and specificity. Changes of intraepithelial papillary capillary loops (IPCL) are characteristic for malignant neoplasia, e.g. prolongation and enlargement.

It is assumed, that NBI HDTV magnifying endoscopy could be used intraoperatively and determine the malignancy thanks to accurate evaluation of IPCL changes to as a part of prehistologic diagnosis. In our study we focused on

Keywords // NBI papillomatosis, children, Amiksin
intraoperative utilisation of NBI HDTV magnifying endoscopy. The aim was to evaluate the benefits of this method for proper discrimination of laryngeal papillomas and laryngeal spinocellular cancer (SCC) during direct laryngoscopy.

Methods
54 patients underwent direct laryngoscopy with NBI HDTV magnifying endoscopy for laryngeal tumour.

Results
In 11 patients IPCL architecture was not visible due to hyperkeratosis. 20 cases showed vascular microarchitecture typical for SCC, 13 showed regular arrangement of IPCL typical for papillomas. 10 showed uncertain IPCL structure.

Conclusion
Intraoperative use of NBI HDTV magnifying endoscopy was proved to be of great benefit and helped to establish the diagnosis prior the histological result in most cases.

Supported by grant IGA MZ CR NT 11544 and the project for conceptual development of research organisation 00064203

Keywords // laryngology, endoscopy, papillomatosis, spinocellular cancer

PL60 // LARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Contribution of VFSS in the early detection of fistulas after total laryngectomy: our experience.

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Dermohypharyngeal fistulas are the most common complication after total laryngectomy(8.7%-22%). Our goal is to evaluate if VideoFluoroscopic Swallow Study helps in their early detection and management.

50 consecutive patients underwent total laryngectomy the last 4 years in our institution, by the same surgical team following the same surgical technique. 15 of them had laryngectomy as first treatment for advanced laryngeal cancer, 19 had a relapse after radiotherapy and 16 after chemo-radiotherapy. A nasogastric tube was used for feeding. In the 12th postoperative day, before removing the nasogastric tube, swallowing evaluation was performed through VFSS in 32 patients.

None of the 50 patients developed a clinically active fistula. In 28 of the 32 patients, VFSS showed normal swallowing and the nasogastric tube was removed, while in 4 of them there were signs of leakage without a true fistula having been formed. Of those 4 patients 1 had undergone radiotherapy and 3 chemo-radiotherapy.

In these 4 patients a second VFSS was performed a week later. 3 of them had normal VFSS and started normal feeding while the 4th the feeding through the nasogastric tube was continued for one more week.

Considering the signs of leakage in the 4 patients’ VFSS as an early sign of a fistula formation, leakage detection by VFSS helped us to better evaluate the patients and delay their per os nutrition until VFSS showed no signs of leakage.

Keywords // laryngectomy, fistula, videofluoroscopic swallow study

PL61 // LARYNGOLOGY // Phoniatrics

Hypernasality in adults - manifestation of myasthenia gravis

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Objectives: Myasthenia gravis is a chronic autoimmune neuromuscular disease. It is characterized by fatigable weakness of striated muscles, with a predilection for the extracocular, bulbar, and proximal limb musculature. Usually, weakness of the eye muscle is the first noticeable symptom. The most common age of presentation is 10^-30 years old in women and 50^-70 years old in men.

Materials and methods: A 26-years-old male patient reported difficulties in speech. The true nature of his problem (open rhinophonia) only became apparent later in the day. Myasthenia gravis was diagnosed by individual’s medical history, physical and neurological examinations, several blood tests and repetitive nerve stimulation test.

Conclusion: This case highlights the importance of suspecting myasthenia gravis in young men with open rhinophonia in order to reach an early diagnosis and treatment.

Keywords // hypernasality, myasthenia gravis, open rhinophonia

PL62 // LARYNGOLOGY // Laryngology

Large lipoma of the larynx and its removal using a laryngofissure approach. A case report.

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Introduction: Lipomas are benign tumours of adipose tissue. Although being the commonest neoplasms of mesenchymal origin, they seldom appear in the upper aerodigestive tract region, representing only 0.6% of all benign tumours. Usually encapsulated and solitary, its long asymptomatic course makes the diagnosis difficult.

Case:
Our aim was to present the case of a patient with lipoma of the left aryepiglottic fold, which we were able to remove using an open approach - a laryngofissure.

Methods:
A 66-year old male was referred to Zemun Clinical Centre Otorhinolaryngology Office, complaining of foreign body sensation in his throat during the past three years, but without breathing or swallowing difficulties. Clinical examination revealed a 3-centimeter round growth with smooth, yellowish surface in the region of the left hemilarynx. After CT and laryngomicroscopic examination which revealed the peduncle of the submucosal mass originating from the left aryepiglottic fold, the mass was completely removed using external access through laryngofissure. The histopathologic evaluation showed features of lipoma.

Conclusion:
The presented case of laryngeal lipoma removal using an external surgical approach demonstrated that the laryngofissure is adequate for complete surgical removal, preventing any possible recurrence.

Keywords // lipoma, aryepiglottic fold, laryngofissure

PL63 // LARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

A case of actinomycosis in asymmetric tonsils

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Hospital Professor Doutor Fernando Fonseca

Actinomycosis is an endogenous slowly progressive infection caused by Actinomyces spp. It has been known to involve virtually every anatomic site in the body. Although rare, Actinomycosis of cervicofacial region is the most common form and results from direct invasion of commensal oral actinomyces into local tissues. Lesions of head and neck are characterized by their varied presentation and their propensity to mimic other diseases making the diagnosis difficult. Pre-operative investigations are not effective in making diagnosis of actinomycosis. We report a case of unilateral hypertrophy of palatine tonsils in a 76-year-old man with initial suspicion of neoplastic process. The diagnosis of actinomycosis was made by histologic examination after surgical excision. In this case treatment that consisted of tonsillectomy and postoperative antibiotic produced a good prognosis.

Keywords // Actinomycosis, Actinomycosis, palatine tonsils, asymmetric tonsils

PL64 // LARYNGOLOGY // Laryngology

The voice assessment in patients with RRP after cidofovir treatment

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Introduction: Traditional treatment of laryngeal papillomas was associated with voice disorders due to damaged vocal fold’s mucosa. Cidofovir treatment reduced a damage to the laryngeal structures and thus improved parameters of the voice.
Material and Method: The material included 40 patients with laryngeal papillomas in whom we assessed voice parameters before and after treatment. Methodology included subjective voice evaluation (GRBAS), videostroscopy, analysis of the acoustic laryngeal tone (MDVP), spectrographic analysis and VHI. Results: The perceptual voice estimation (GRBAS scale) during spontaneous conversation revealed better phonation result than before cidofovir treatment. In the analysis MDVP laryngeal tone before surgery significantly elevated parameters defining an amplitude and frequency of laryngeal tone. After treatment, both Jitter and Shimmer were reduced also other laryngeal tone disturbances were decreased. After surgery well-defined harmonic changes were observed with well-marked controls and normal speech amplitude. In all analyzed cases, there was a significant reduction in VHI scores showing improvement in quality of life. Conclusion: In all patients with RRP treated with Cidofovir no recurrence of changes and a satisfactory improvement of voice quality were observed.

Keywords: RRP, laryngeal papillomatosis, voice quality

PL65 // LARYNGOLOGY // Laryngology
Laser excision of lipoma sinus pariniformis
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Laser excision of lipoma sinus pariniformis
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Case report

Lipomas are the most common benign tumors of mesenchymal origin. About 13 % of all lipomas occur in the head and neck and most commonly in the posterior neck subcutaneous tissue. Laryngeal lipomas represent less than 1 %of benign tumors of the larynx. In general these benign neoplasms are encapsulated smooth and usually pedunculated. Clinical manifestation includes progressive hoarseness, dyspnea and even dysphagia. We reported a case of laryngeal lipoma removed with an endoscopic approach with laser excision. Benign laryngeal tumors are rare and radiological imaging is important for the diagnosis and for the referral of the patient to surgery. Laryngeal lipoma, although rare, should be considered in the differential diagnosis of patients presenting with dysphonia.

Keywords: sinus pariniformis, laser excision, CO2 laser, lipoma

PL66 // LARYNGOLOGY // Laryngology
Laryngopyocele: A rare cause of acute airway obstruction
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Bellvitge University Hospital

A laryngopyocele is a rare clinical entity that arises when infection and suppuration occur within a preexisting laryngocele. Its clinical picture is often alarming, thus it needs fast differential diagnosis. The etiology of laryngopyoceles is unclear, congenital factors has been implicated, thus they may be associated with supraglottic squamous cell carcinoma. Laryngopyoceles present acutely with fever, odynophagia, dysphonia, and stridor. When the patient’s condition allows, computed tomographic scans, along with clinical examination, including fiberoptic laryngoscopy, are useful in the assessment of laryngopyoceles. Optimal treatment requires drainage of the supplicative focus and broad spectrum antibiotic therapy. To prevent recurrence of this potentially life threatening entity, treatment of the underlying laryngocele should be undertaken after the acute infective process has been resolved, and a full laryngeal assessment to rule out any underlying associated malignancy.

We report a case of a 67-year old male patient with stridor, fever and dysphonia. The physical exam revealed tender laterocervical mass on the left side, laryngoscopy showed an outpouching of the left laryngeal saccule. CT-Scan revealed a left mixed laryngomycopyocele of 16/15/17 mm. The patient was treated with broad spectrum antibiotics, NSAD. External FNA was performed obtaining purulent material. Final treatment was achieved with through an open approach, postoperative recovery was free from complication.

Keywords: Laryngoecele, Laryngopyocele, Stridor

PL67 // LARYNGOLOGY // Laryngology
Vocal fold vibration of patients with a unilateral vocal fold mass and diplophea
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Introduction: To know the origin of diplopheionic voice we observed vocal fold vibration of patients with a unilateral vocal fold mass and diplopheionic using high-speed digital imaging (HSID) and videostroscopy.

Methods: Subjects were 3 patients (2 male, 1 female, 52”77 years of age, mean 61.0 years) whose voice was perceived as diplophonic during phonation of sustained vowel /e/. Their clinical diagnoses were vocal fold polyp in 2 patients and vocal fold cyst in one. We examined their vocal folds during phonation of sustained diplophonic /e/ at each patient’s comfortable pitch and intensity using HSID system (1200 fps) and videostroscopy before and after microphonsurgery.

Results: When observed by HSID before surgery, incomplete glottal closure with gaps by unilateral oval mass and anterior-posterior frequency difference were apparent in all patients. Left-right frequency difference was not observed. Meanwhile, vocal fold vibration could not be tracked by stroboscopy in all before surgery. After surgery diplophonia disappeared and both HSID and stroboscopy revealed normal vocal fold vibration in all.

Conclusions: Diplophonic voice of our patients was thought to be produced by vocal fold vibration with anterior-posterior frequency difference. Our study showed that HSID is more useful than stroboscopy for examining the vocal fold vibration of patients with a unilateral vocal fold mass and diplophonia.

Keywords: vocal fold vibration, unilateral vocal fold mass, diplophea, high-speed digital imaging, videostroscopy

PL68 // LARYNGOLOGY // Laryngology
TRACHEOHYOIDOPEXY AS REVISION SURGERY AFTER CRICHOYOIDOPEXY
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INFANTA CRISTINA UNIVERSITY HOSPITAL. PARLA. MADRID. SPAIN

Subtotal laryngectomy with Cricohoidopyex is an alternative to total laryngectomy in some selected cases of laryngeal tumours.

Nevertheless, several critical complications may occur that can endanger the postoperative period itself and the functional outcome.

A patient 47 years old, diagnosed with a laryngeal carcinoma, in which a CHP was performed, in the postop. period he suffered massive bleeding that led him to the operating theatre.

An infection of the anterior cricoid arch occurred, and a subsequent rupture of the pexy, with separation of the hyoid bone from the lateral and posterior cricoid remnants.

It was not possible to suture both structures again, due to the absence of the anterior arch, and therefore we decided to perform a tracheohoidopyex. We included a deep transsection in the inferior loop of the thyroid lobe on each side. We believe that due to the softening of the cartilage remnants, the inclusion of the thyroid gland in the pexy was a major positive factor that reinforced and sealed it.

He was decannulated and started oral feeding before discharge, two weeks latter. We show the endoscopic aspect of the pexy as it is at present.

Keywords: LARYNGECTOMY, CRICHOYOIDOPEXY

PL69 // LARYNGOLOGY // Phoniatrics
LARYNGOCELE-PHONIATRIC APPROACH
Sanja Krezovic Trivic, Milan Vukasinovic, Vojko Djukic, Jovica Milovanovic,Aleksandar Ugrinovic,Bajan Pavlovic,Aleksandar Trivic (Serbia)
induced intravenously leading to a total airway collapse. A cannot intubate,"

induced by inhalation since she suffered from injection phobia. At 20 weeks of pathology. Hormonal and immunological factors may promote the growth of laryngeal papillomas. By that time her oxygen saturation was below 40% for 8 minutes and she needed cardiac compressions for a short period of time. The further course was uneventful and both mother and child recovered without sequelae.

Conclusion: Handling a difficult airway is never a straightforward procedure. A severely distressing situation can develop despite thorough preparations. The state of pregnancy can complicate the process of decision making and multidisciplinary approach is crucial.

Keywords: Laryngeal papillomatosis, Pregnancy Complications, Cardiopulmonary Resuscitation

PL71 // LARYNGOLOGY // Laryngology

Life threatening complications under treatment of laryngeal papillomatosis in pregnancy. A case report.

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Haukeland University Hospital

Introduction: Dyspnoea in pregnancy is common, but rarely caused by laryngeal papillomatosis. Hormonal and immunological factors may promote the growth of laryngeal papillomas in pregnant women leading to life threatening situations. We report an unique case surviving respiratory arrest.

Case report: The patient has been operated more than 50 times for laryngeal papillomatosis. All operations were uncomplicated. Anaesthesia was always induced by inhalation since she suffered from injection phobia. At 20 weeks of gestation she presented with severe dyspnoea. The videolaryngoscopic view revealed a larynx nearly obstructed by papillomas. Only in the posterior commissure was an opening, sufficient for intubation. We decided emergency surgery in the same afternoon. Since she was pregnant, anaesthesia was induced intravenously leading to a total airway collapse. A cannot intubate "cannot ventilate situation developed rapidly and could not be resolved before the third attempted tracheostomy was successful. By that time her oxygen

saturation was below 40% for 8 minutes and she needed cardiac compressions for a short period of time. The further course was uneventful and both mother and child recovered without sequelae.

Conclusion: Handling a difficult airway is never a straightforward procedure. A severely distressing situation can develop despite thorough preparations. The state of pregnancy can complicate the process of decision making and multidisciplinary approach is crucial.

Keywords: Laryngeal papillomatosis, Pregnancy Complications, Cardiopulmonary Resuscitation
Deguelin Induces Apoptosis in Cultured Head and Neck Squamous Cell Carcinoma Cells, LEI CHENG (China) Department of Otorhinolaryngology, The First Affiliated Hospital, Nanjing Medical University

Deguelin induces apoptosis in cultured head and neck squamous cell carcinoma (HNSCC) represents more than 5% of all cancers diagnosed annually around the world. Despite advances in the management of patients with this disease, the survival has not been significantly improved, and the search for potential alternative therapies is encouraging. Deguelin has been recently identified as a potent chemo-preventive agent against a number of cancers. Here we study the potential effects of deguelin against HNSCC cells by focusing its mechanisms. We demonstrate that Deguelin administration causes a significant HNSCC cell death. Deguelin induces cell apoptosis by modulating multiple signaling pathways in cultured HNSCC cells. Deguelin inhibits Akt signaling, and down-regulates survivin and cyclin-dependent kinase 4 (Cdk4) expressions, by disrupting their association with heat shock protein-90 (Hsp-90). Deguelin induces ceramide production through de novo synthase pathway to promote HNSCC cell death. Importantly, increased ceramide level activates AMP-activated protein kinase (AMPK), which then directly phosphorylates Ulk1 and eventually leads to cell autophagy. Our findings suggest that deguelin may represent a novel and effective chemo-agent against HNSCC.

Keywords: Head and neck squamous cell carcinoma, deguelin, Hsp 90, Akt, ceramide, AMPK apoptosis

PL77 // HNS // Oncology, head and neck, oral cavity, pharynx and trachea

Myxoma of the Maxilla: Case report, Diagnosis and Treatment
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Background: Odontogenic myxomas are benign, rare, tumors of mesenchymal origin which affect mainly the jaw. These tumors exhibit locally aggressive behavior and are prone to local recurrence. Their differential diagnosis includes odontogenic keratocysts, ameloblastomas, odontomas, among others lesions. Odontogenic myxomas are not sensitive neither to chemotherapy nor radiotherapy, and their therapeutic management can vary from simple curettage of lesion to segmental bone resection, but the first option is associated with a high recurrence rate (up to 25%). Case Report: We present a case of a 31 year old female patient with the diagnosis of a central odontogenic myxoma of the maxilla that went under a maxillectomy surgery with resection of the infrastructural segment, with total excision of the lesion (free margins) and prosthesis placement intraoperatively.

Keywords: odontogenic myxoma; maxilla; head and neck

PL78 // HNS // Oncology, head and neck, oral cavity, pharynx and trachea

ORAL FOCAL MUCINOSIS: CASE REPORT AND DIAGNOSIS

ABSTRACT
Oral focal mucinosis (OFM) is a rare disease of unknown etiology, which the connective tissue undergoes a focal myxoid degeneration. It was first described in 1974 by Tomich. Its pathogenesis is related to overproduction of hyaluronic acid by fibroblasts during the collagen production, resulting in focal myxoid degeneration. It has no distinctive features and its diagnosis depends on histological analysis. This paper reports a case of a 30 years old female served at the Ambulatory of Stomatology of the Clinical Hospital - CH/UNICAMP, with a lesion growth and progressive pain in the palate, after performing dental treatment and to discuss the clinical characteristics and the differential diagnosis of myxomatous lesion of the oral cavity. Since oral focal mucinosis has no distinguishing clinical features and the diagnostic is based on a histopathological examination we conclude the importance of this procedure to confirm the diagnosis.
PL79 // HNS // Oncology, head and neck, oral cavity, pharynx and trachea
Transoral laser microsurgery for early and moderately advanced laryngeal cancers: The Mersey experience
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Introduction: Transoral laser microsurgery (TLM) is an important treatment option for selected laryngeal cancers. TLM provides comparable cure rates to other treatment modalities, while offering favourable functional results. High quality evidence, however, is limited and as such disparity still exists between centres in their therapeutic approach. Our institution has an established TLM service and we sought to evaluate results over a 5-year period.

Methods: Patients undergoing primary TLM for laryngeal cancer (2007-2011) were identified retrospectively. Hospital records were reviewed for demographics; pathology; adjuvant treatment; surgical, oncological, and functional outcomes.

Results: 143 patients were included. 7.0% of tumours were staged pTis, 69.2% pT1, 16.8% pT2, and 7.0% pT3. 4.2% of patients underwent selective neck dissection, and 7.0% adjuvant radiotherapy. No major surgical complications were observed. Median inpatient stay was 1 day, with a 44.8% daycase rate. Overall, disease-specific, and disease-free survivals were 87.7%, 94.3%, 82.7% respectively, with median follow-up of 38 months. Disease-specific survival by T stage was 100% (Tis), 97.2% (T1), 94.1% (T2), and 71.4% (T3). 4.2% of patients required PEG, while 2.8% required tracheostomy.

Conclusion: Our series confirms the safety, and oncological and functional efficacy of TLM, adding to the body of evidence supporting TLM for the treatment of early and selected moderately advanced laryngeal cancers.

Keywords // Surgical Procedures, Minimally Invasive/methods; Laryngeal Neoplasms/surgery; Glottic/surgery; Survival Rate

PL80 // HNS // Oncology, head and neck, oral cavity, pharynx and trachea
HIGH MMP-7 EXPRESSION IS ASSOCIATED WITH POOR SURVIVAL IN ORAL TONGUE SQUAMOUS CELL CARCINOMA
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Purpose
Predicting clinical outcome in oral tongue squamous cell carcinoma (OTSCC) is challenging as even small tumors may behave aggressively. Matrix metalloproteinases (MMPs) are enzymes that are able to degrade almost all extracellular matrix proteins. They are considered to be critical factors during invasion, metastasis and tumor angiogenesis and therefore, for tumor progression. MMP-7, also called matrixin-1, has a wide proteolytic activity and capability to activate other MMPs, and thus exerts various roles in tissue remodeling. In physiological conditions, MMP-7 is expressed by normal ductal and glandular epithelium, but it is also linked to many types of malignant tumors. We investigated the clinical significance of MMP-7 protein expression in OTSCC.

Material and Methods
We used tissue microarray (TMA) technique and immunohistochemistry to study the expression of MMP-7 in 73 Stage I-II OTSCC tumors, and compared the immunexpression with patient and tumor related characteristics and treatment outcome. Follow-up time was five years or until death.

Immunohistochemistry showed MMP-7 expression in 90% (n = 63/70) of the tumor samples. Expression was low in 35 (50%), moderate in 21 (30%), and high in seven (10%) cases. MMP-7 protein expression was predictive for poor outcome (p = 0.021).

Conclusions
This study shows that elevated MMP-7 expression is associated with poor survival in early-stage OTSCC.

Keywords // Matrix metalloproteinase, oral cancer, biomarker, prognosis, immunohistochemistry, survival

PL81 // LARYNGOLOGY // Phoniatrics
Measuring and Evaluating Singing Voice Handicap Index in professional classical singers.
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Polinicl of Specialities Nr 2

Abstract:Professional classical singers have demanding voice needs. Their voice is in a constant need of strength and high quality. They are also more exposed to the risk of developing voice problems. The Voice Handicap Index was developed to assess patients' perception of the severity of their voice disorder. The purpose of this study was to determine the degree of handicap expressed by professional presenters with a voice complaint.Method:Singers of State Opera were voluntary recruited [n 104] to self-administrate the questionnaire of VHI. Voice symptoms were studied. All of them undergo the program of Vocal Hygiene Habits, and those with symptoms undergo the resonant voice therapy for 6 weeks (3 times/ week). After this procedure all the singers re-administrated the VHI questionnaire.

Results of the VHI for individuals indicate that singers score after the implementation of Program of Vocal Hygiene were significantly lower (less severe) on the VHI, compared to the same singers before. Singers with vocal fold nodules had a lower mean VHI than singers with vocal fold cysts or polyps. Singers who perform classical music for 3 hours/day had the lowest mean VHI of singers, who use their voice for more than 4 hours per day.

Conclusions The VHI is a reliable and valid tool for assessing self-perceived handicap associated with singing problems. The VHI adapted to the classical professional singers, appears to be reliable, valid and measure the right patient's perspective.

Keywords // Voice Handicap Index, classical singer, diaphonia.

PL82 // LARYNGOLOGY // Laryngology
Sternohyoid myocutaneous rotary door flap for laryngotracheal reconstruction
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Tangdu Hospital, Fourth Military Medical University

Objective: To assess the indications and outcomes of laryngotracheal reconstruction (LTR) using the sternohyoid myocutaneous rotary door flap (RDF) in patients with laryngotracheal stenosis.

Methods: Forty-two patients (33 males; mean age, 28 years) with laryngotracheal stenosis who underwent RDF procedures at Tangdu Hospital between January 1999 and September 2008 were analyzed. Previous therapy with LTR elsewhere had failed in 14 patients. Forty patients had undergone previous tracheotomy. Stenosis was classified according to the Myer"Cotton grading system. Six patients were grade II, 28 were grade III, and 8 were grade IV. The mean length of stenosis was 2.3 cm (range, 1.0"5.0 cm). Two patients had concomitant unilateral vocal paralysis and 6 had bilateral vocal paralysis.

Results: Thirty-six of 42 patients (85.7%) were decannulated. Thirty-one patients were decannulated after one procedure and 5 were decannulated after a second RDF procedure. The prevalence of decannulation for grade-II, -I1, and -IV stenosis was 100%, 93.1% and 42.9%, respectively. Nine patients needed endoscopic removal of granulation tissue before they were decannulated. There were no severe complications. The length of follow-up ranged from 1 year to 6 years.

Conclusions: The RDF is a relatively simple and reliable method for LTR but should be used cautiously if employed in severe cases such as grade IV with long-segment stenosis.

Keywords // Laryngotracheal stenosis, sternohyoid myocutaneous flap, reconstruction.

PL83 // LARYNGOLOGY // Thyroid and parathyroids

This article is based on literature review and reports a case of oral focal mucinosis, his clinical and surgical outcome and demonstrates the importance of biopsy and pathological examinations in differential diagnosis of nodular masses in the oral cavity.
A case of acute tuberculous abscess of the thyroid gland
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Alexandria University Hospitals

The authors are presenting our experience of managing an interesting case of a 28-year-old woman who presented to our clinic with a midline neck swelling of 1-month duration. There was a rapid increase in the degree of swelling associated with erythema, pain and fever 7 days before seeking medical help. Plain and contrast-enhanced CT scans of the neck were done. Diagnosis of acute suppurative abscess was made and the patient underwent emergency incision and drainage. Histopathological examination of the abscess wall showed epithelioid and Langhans’ giant cells. The findings were suggestive of tuberculosis. Subsequently, a positive culture for Mycobacterium tuberculosis was obtained on Lowenstein-Jenson medium. The patient was started on antituberculous chemotherapy for 6 months. On a 6-month clinical follow-up, the patient was asymptomatic and euthyroid. We discuss the clinical presentation, diagnosis and treatment of this case as well as a review of the literature.

Keywords // TB of the thyroid gland

PL84 // LARYNGOLOGY // Thyroid and parathyroids

FNAC vs USS Guided Core Biopsy in the Evaluation of Thyroid Lesions
Mark Adams, Marian Korda (United Kingdom)
Craigavon Hospital, Northern Ireland

Objective
UK guidelines suggest FNAC as the first line investigation of choice in the assessment of thyroid nodule/goitre. Core biopsy is often used as a second line tissue sampling technique when FNAC is non-diagnostic. We aimed to compare the two techniques as practiced in our trust with respect to rate of sample inadequacy and/or insufficiency.

Methods
A retrospective case review was performed of all thyroid tissue sampling procedures over a 6 month period. Data retrieved included patient demographics, type of sampling techniques and result, and specialty & seniority of performer. The rates of insufficient & inadequate samples were calculated.

Results
In total 106 thyroid sampling procedures in 86 patients were undertaken over the period out-lined, of which were 77 FNAC & 29 core biopsies. There were no complications recorded. The non-diagnostic rate for FNAC (excluding Thy1c) was 26% (20/77). This dropped to 18.5% (10/54) for USS guided FNAC. For core biopsy, the inadequate/insufficient rate was 6.9% (2/29). Ultrasound guided biopsy showed statistically significant benefits with respect to freenhand FNAC but not ultrasound-guided FNAC.

Conclusion
Our series suggests that it is the criterion of ultrasound guidance which confers most benefit in terms of reducing the non-diagnostic sample rate. We aim to develop a joint one-stop thyroid clinic, with both otolaryngologists and radiologists, using ultrasound guidance as routine, and with same day reporting of FNAC.

Keywords // Thyroid nodule, fine needle biopsy, core biopsy

PL85 // LARYNGOLOGY // Thyroid and parathyroids

Surgical treatment results of medullary cancer of thyroid gland in Rostov Region.
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Rostov Regional hospital

Surgical treatment results of medullary cancer of thyroid gland in Rostov Region. I.V. Zinkevich, O.I.Zinkevich, A.A. Matyvenko, M.V. Pleskach Russia, Rostov-on-Don, Regional hospital, Endocrinological Surgery 1345 patients with different forms of cancer of thyroid gland have been operated in Rostov-on-Don Regional hospital since 1999. Papillary cancer of thyroid gland (89, 2%), 105 had medullary cancer (7,8%), 96 (91,5%) patients had sporadic form and 9 (8,5%) had hereditary form.

Thyroidectomy with central lymphadenectomy (73,4%), and part of patients were added with lateral lymphadenoscopy (unilateral or bilateral). In the postoperative period the patients had CT of mediastinum, brain, ultrasonic scanning of neck and organs of abdominal cavity and determination of calcitonin in plasma in order to detect distant metastases. Lethality (6,6%) were recorded during 5 years of the follow-up.

Recently we have begun to perform target therapy with prescribing such preparations as Vandetinib.
1. Most of the patients with medullary cancer of thyroid gland were patients with sporadic form.
2. All patients with medullary cancer of thyroid gland have to be more radically operated on than patients with papillary cancer of thyroid gland.
3. Low level of calcitonin points to radically performed operation.
4. It is necessary to examine next-of-kins of patients with medullary cancer of thyroid gland in order to detect family form.

Keywords // Surgical medullary cancer

PL86 // LARYNGOLOGY // Laryngology

LARYNGOPHARYNGEAL REFLUX : Lansoprazole vs Omeprazole
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ENT “AlphaG”

PURPOSE OF THE STUDY: Clinical presentation of laryngopharyngeal reflux (LPR) may be manifested by a wide range of symptoms. The treatment for LPR currently consists of dietary and lifestyle modification along therapy with proton pump inhibitors (PPIs). The aim of this study was to compare efficacy of PPIs like as lansoprazole and omeprazole.

THE METHODS: This study included forty-five adult patients with LPR. The treatment period was 8 weeks. Patients with LPR symptoms were assigned randomly to receive lansoprazole 30mg, or omeprazole 20mg. During the first week patients took it twice a day and after the first week they took it once a day. All the patients completed symptom questionnaires; these provided demographic information and the reflux symptom index (RSI) before treatment, after 1 week, 4 week and 8 week treatment.

SUMMARY OF THE RESULTS: Mean RSI of all patients was 25.25 before treatment with PPIs. After 8 weeks of therapy with PPIs mean RSI decreased to 14.50 in the group treated with lansoprazole and 14.95 in the group treated with omeprazole. During the treatment period the RSI score decreased significantly in both groups after 4 and 8 weeks, but no significant difference between groups was found.

CONCLUSIONS: PPIs have been remarkably effective in treating patients with LPR. No difference between therapy with 30mg lansoprazole and 20mg omeprazole was found.

Keywords // laryngopharyngeal reflux, proton pump inhibitors

PL87 // LARYNGOLOGY // Laryngology

Laryngoceles: Retrospective study in a single institution in Brazil
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The laryngocele is a rare benign dilation of the laryngeal sacculus. The estimated incidence is 1 per year per 2,500,000 in population. The common symptoms are dysphonia, dyspnea and neck mass. Radiologic exams and videolaryngoscopy are part of diagnosis and treatment. Complications are pneumonia, neck abscess and acute airway obstruction. Surgery is the preferred treatment, endoscopic approach for small lesions, external approach for medium and voluminous lesions. Objective: Describe results of patients with laryngoceles treated at the Head and Neck Service in the Beneficência Portuguesa de SÀo Paulo Hospital over a nine year period. Method: Retrospective review. Results: Two patients only were treated for laryngocele in the period of 2000 to 2009. Case 1: Female with dysphonia and dyspnea. Laryngoscopy shows the round lesion at the right ventricle. Surgery by external approach and right paralaryngal incision. Pathology was squamous metaplasia in the epithelium, with no malignancy. Case 2: Male with dysphonia and dyspnea. Laryngoscopy with right cutaneous lesion measuring 4.0x3.2x3.0cm. Surgery by external approach and right lateral thyrotomy preserving the right inferior laryngeal nerve. Pathology showed squamous...
metaplasia in the epithelium, no malignancy. Conclusion: Incidence is compatible with literature. Surgery is preferred. Clinical suspicion and treatment must be early avoiding the acute airway obstruction.

Keywords // Larynx; Glottis; Voice Disorders; Laryngeal Diseases; Laryngoscopy

PL88 // LARYNGOLOGY // Phoniatrics
Voice assessments and surgical outcomes after endolaryngeal phonocomicrsurgery in patients with vocal fold retention cyst
Petarovic-Lazić Mirjana, Snezana Babac, Mile Vukovic, Vesna Stojanovic Kamberovic (Serbia)
ENT Clinic, Zvezdana Clinical and Hospital Centre, Belgrade,

Objective: This study presents the voice assessments and surgical outcomes after endolaryngeal phonocomicrsurgery (EPM) of vocal fold retention cyst.

Methods: The acoustic tests and perceptual evaluation of voice were carried out on 29 patients with vocal fold retention cyst before the endolaryngeal phonocomicrsurgical intervention (EPM) one month after its completion. The acoustic parameters were vFo, Jitter (%), Shimmer (%), and HNR. Results were compared to the control group without voice pathology.

Results: All of the analyzed acoustic parameters improved significantly after the phonocomicrsurgical intervention and tended to approach normal values.

Conclusion: Voice assessments with perceptual and acoustic analysis provided measurable and documentable evidence of voice and useful methods for evaluation of the presurgical and postsurgical voice status.

Keywords // acoustic vocal analysis, vocal fold retention cyst, voice disorders

PM02 // MISCELLANEOUS // Miscellaneous
A systematic review of botulinum toxin (Botox) applications in non-cosmetic head and neck conditions
Dr. George Garas, George Garas, Konstantinos Benetatos, Constantine Stamatoglou, Ali Qureshi, Ricardo Persaud (United Kingdom)
Imperial College London

Purpose: Botox is best known for its beneficial role in facial aesthetics but recent literature has highlighted its usage in multiple non-cosmetic medical and surgical conditions. The purpose of this systematic review is to present the current evidence pertaining to Botox use in ENT-Head & Neck Surgery.

Method: Literature review using The Cochrane Controlled Trials Register, Medline and EMBASE databases limited to English Language articles published from 1980 to 2012.

Results: There is level 1 evidence supporting the efficacy of Botox in the treatment of spasmodic dysphonia, essential voice tremor, headache, cervical dystonia, masticatory myalgia, sandorhoea, temporomandibular joint disorders, bruxism, blepharospasm, hemifacial spasm and rhinitis. For chronic neck pain there is level 1 evidence to show that Botox is ineffective. Level 2 evidence exists for vocal tics, trigeminal neuralgia, dysphagia and post-laryngectomy oesophageal speech. For stuttering, “‘first bite syndrome’, facial nerve paresis, Frey’s syndrome, oromandibular dystonia and palatal/stapedial myoclonus the evidence is level 4.

Conclusion: The literature highlights a role for Botox in a wide range of non-cosmetic conditions pertaining to the head and neck (mainly level 1 evidence), though its effects are transient. With ongoing research, the spectrum of clinical applications and number of people receiving Botox will no doubt increase. Botox appears to justify its title as the “poison that heals” .

Keywords // Botulinum Toxin, Clostridium Botulinum, Aetymcholine, Evidence-Based Medicine, Evidence-Based Practice, Dysphonia, Tremor, Stuttering, Gilles de la Tourette Syndrome, Headache, Dystonia, Torticolis, Myalgia, Pain, Trigeminal Neuralgia, Speech, Laryngec

PM03 // MISCELLANEOUS // Miscellaneous
National survey on the approach to septoplasty in Slovenia
David Debevc, Ivan Zekovič, Bogdan Čizmarevič, Miha Žargi (Slovenia)
University Clinical Centre Maribor, Department of ENT and Maxillofacial surgery

Methods: We tried to determine the standard of care in patients with septoplasty in our country with an anonymous questionnaire with the intention to find out whether there are any consisting differences between the departments and within them.

Results: Septoplasties are in general performed under anesthesia in between 90 and 100 percent on four (out of eight) departments. Surgeons who do the
PM04 // MISCELLANEOUS // Miscellaneous
Analysis of urgent referrals to the Department of ENT and maxillofacial surgery at the University Clinical Centre Maribor in 2011
Matija Svažan, David Debevc, Ivan Zeković, Bogdan Čizmarević (Slovenia)
University Clinical Centre Maribor, Department of ENT and Maxillofacial surgery

We have been observing too many urgent referrals to ENT department in clinical practice and due to that fact we addressed the problem of rising demand for emergency attention with an epidemiological study of emergency services in the named institution. By reviewing patients' charts we compared referral diagnoses and medical conditions diagnosed with the doctrinally recommendations for urgent referrals to otorhinolaryngologist.

Methods: In retrospective review we included 10 percent of all urgently referred patients in our department in the year 2011.

Results: Admission was necessary in only 9 percent of all referred patients, 6 percent of them were redirected to other medical specialists; the remaining patients received only outpatient treatment. By comparing identified medical conditions and recommendations for urgent referrals we concluded that at least 57 percent of all referrals were ineligible or unnecessary. Minor injuries, after already being examined by the trauma surgeon, are most prominent among the mentioned above. Among referrals by general practitioners there are many previously untreated ear infections and other upper aero digestive tract infections.

Conclusions: With our study we wanted to identify and clarify the problem of urgent referrals to otorhinolaryngologist. Hopefully, we will be able to eliminate the overload of urgently referred patients with continuous education of GPs.

Keywords // ENT emergencies, community survey, epidemiology

PM06 // MISCELLANEOUS // Miscellaneous
Coblation versus bipolar diathermy for adult tonsillectomy
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Magrabi Eye and Ear centre

Objective: To compare coblation and bipolar diathermy tonsillectomy in adults in terms of operative time, operative blood loss, post operative pain and post operative complications.

Design: Prospective randomized study

Setting: Private specialized hospital in otolaryngology

Methods: Thirty patients (aged 18–40 years) scheduled for tonsillectomy were enrolled in this study, the patients were randomized using sealed envelopes to have one tonsil removed by coblation and the other tonsil removed with bipolar diathermy.

Main outcome measures
Operative time and operative blood loss were recorded for each side separately and compared. The patients were given a pain diary to record the level of pain on each side using a visual analog score for 7 days. They were asked also to report any complications.

Results
Operative time and operative blood loss were significantly less in the coblation sides (P < 0.001). The mean pain score on the coblation sides was significantly lower compared to the diathermy sides on the 1st and 2nd post operative days.

Conclusion
This study can be added to the studies recommending the use of coblation for tonsillectomy in adults based on the minimal post-operative pain and similar morbidity compared to bipolar diathermy.

Keywords // tonsillectomy, coblation, bipolar diathermy, post operative pain.

PM07 // MISCELLANEOUS // Miscellaneous
“OPTICAL BIOPSY” BY NARROW BAND IMAGING AND AUTOFLUORESCENCE OF ORAL AND OROPHARYNGEAL ERYTHRO-LEUKOPLAKIAS
Cesare Piazza, Francesca Del Bon, Stefano Mangili, Paola Graziolì, Roberta Bosio, Piero Nicolai (Italy)
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Autofluorescence (AF) and narrow band imaging (NBI) assist the naked eye (NE) in achieving a reliable distinction between normal and neoplastic mucosa of oral (OC) and oropharyngeal (OP) cavities, performing a so called “optical biopsy”.

Aim of the study is evaluate sensitivity (Se), specificity (Sp), positive (PPV), negative predictive values (NPV), and accuracy (Ac) of AF, and NBI in never biopsied before OC and OP erythro leukoplasias.

MATERIAL AND METHODS
116 patients with OC (n=100) and OP (n=16) erythro-leukoplasias were evaluated. At NE, they were divided into Class I (suspicious) and Class II (innocuous) lesions according to the Sciubba. Lesions underwent AF and NBI examinations (categorized “positive” or “negative”), and excisional biopsy.

True positive were those “positive” at AF or NBI and with histopathologic diagnosis ranging from mild dysplasia to invasive carcinoma.

RESULTS
Among 116 lesions, 70 were Class I and 46 Class II at NE. Excisional biopsies resulted: 32 benign lesions, 7 mild, 6 moderate, 13 high-grade dysplasias or carcinoma in situ, and 58 invasive carcinomas. For Class I lesions Se, Sp, PPV, NPV, and Ac for AF were 83%, 60%, 93%, 37%, 80%; for NBI, 95%, 80%, 96%, 73%, 93%, respectively. For Class II these values were 62%, 59%, 63%, 59%, 61% for AF, and 79%, 91%, 90%, 80%, 85% for NBI, respectively.

CONCLUSIONS
NBI can be considered an accurate diagnostic tool for “optical biopsy”, especially when dealing with apparently innocuous lesions.

Keywords // narrow band imaging, oral cancer, oropharyngeal cancer, early detection

PM08 // MISCELLANEOUS // Basic research
The Role of Th17 and Treg cells in the Head and Neck Squamous Cell Carcinoma
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Head and neck squamous cell carcinoma (HNSCC) remains one of the most difficult problems in the current oncology. A better understanding of the tumor behavior and its immunological profile and microenvironment (e.g. HPV, Treg) allowed us to modify the treatment strategy.

Increased regulatory T cells (Treg, CD4+CD25+Foxp3+) frequency in the peripheral circulation was proven to correlate with the progression HNSCC, a synergy of Treg and Th17 (CD4+161+) has been shown. Particularly, the relationship between Tc17 and tonsil cancers could be very interesting, because the CCL20 receptor overexpression.

We examined periphery blood of 119 patients with HNSCC before the start of anti-tumor therapy. Infiltration of immunocompetent cells in the tumor microenvironment was analyzed.
The role of the antileukoprotease SLPI in smoking induced HPV-independent HNSCC - an in vitro approach
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In a clinical study we have established a correlation between smoking and non-HPV driven HNSCC, with the antileukoprotease (SLPI) playing an important role. Here we incubated human nasal mucosa with bacterial lipopolysaccharide (LPS) or nicotine and studied gene expression of SLPI and several (pro-)inflammatory cytokines. Both substances stimulate SLPI expression but employ different pathways.

Nasal mucosa was retrieved during FESS and incubated for 6h at various nicotine or LPS concentrations. RNA was isolated, transcribed into cDNA and gene expression was determined using SYBR green based RT-PCR. LPS and nicotine stimulate SLPI gene expression. In both cases SLPI was positively correlated with expression of its receptor Annexin2. LPS stimulates via TLR4 the IL-18 gene expression both correlating with SLPI expression. In addition, LPS can also stimulate TNF-α production leading either via NFκB to IL-18 production or FADD mediated into apoptosis, the latter being most likely the case here, since LPS results in higher TNFα expression and stronger correlation with SLPI. Nicotine, known to down-regulate TNF-α and to stimulate IL-18, in the present study results in a negative and positive correlation with SLPI gene expression, respectively.

The showing finding that nicotine induces SLPI expression and the demonstrated strong correlation between SLPI and other nicotine regulated genes further supports our notion that SLPI plays a role in smoking-induced HPV-independent HNSCC.

Keywords // SLPI, HNSCC, Nicotin, LPS

PM11 // MISCELLANEOUS // Miscellaneous
An Unusual Case of Hearing Loss
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An 83 year old male attended the emergency department with neck pain after a fall. Despite head injury, there was no loss of consciousness; complete recall of events and no obvious precipitating factor. Past history included ischaemic heart disease and hypertension.

A primary and secondary survey was unremarkable. Cervical-spine x-ray was reported to have no fractures therefore the C-Spine was cleared. The patient was admitted for analgesia and mobilisation. The clinical impression was of a musculoskeletal neck injury.

The next day he was noted to have hearing impairment and an otolaryngology opinion was sought. ENT assessment identified bilateral otitis media with effusion. Given the age and smoking history flexible nasal-endoscopy was performed which revealed a large nasopharyngeal mass. The suspicion of malignancy was raised and MRI scan arranged. This revealed a Cl spinal fracture with anterior displacement of the odontoid peg resulting in a ’shemidoma’ of the nasopharynx. Given the unstable pattern of fracture orthopaedic surgeons proceeded with urgent operative stabilisation. Postoperative MRI revealed an appropriate reduction, the patient was then transferred to a community hospital for rehabilitation.

This case highlights how doctors despite their specialty should maintain a general approach to patients to avoid missing serious diagnoses. There are no previous reports of spinal fractures presenting with hearing loss or nasopharyngeal mass.

Keywords // Neck trauma, Nasopharynx, Post Nasal Space Mass

PM12 // MISCELLANEOUS // Basic research
Microvessels and Mast Cell Density in Malignant Laryngeal Neoplasm
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Introduction: Tumor growth beyond a certain size requires angiogenesis, which may permit metastasis. Mast cells density varies, but is constantly well represented in respiratory tract. Material and methods: We studied 18 laryngeal carcinomas archive blocks. Two sections were prepared for HE staining and we used immunohistochemistry combined technique CD 34 SAB for identifying microvessels and mast cells density, using the hot spot method.

Results: Most of the cases were invasive squamous cell carcinoma, G1 ** 33,33%, G2 ** 33,33%, G3 ** 22,22%, malignant papilloma 5,55% and adenoid cystic carcinoma 5,55%. In cases of G1 SCC we encountered mast cell density and microvessels density of 13,83 and 38,83, G2 (14,83 and 41,83), G3 (5,5 and >50), malignant papilloma (10 and 15), adenoid cystic carcinoma both values were >50, invasive squamous cell carcinoma G1 (0 and >50) and in case of microinvasive SCC G1 (8 and 43, respectively).

Conclusions: In early stages (G1) the mast cell density is higher 13,83 versus 5,5 and the microvessels density varies inversely, being lower in early stages G1 ** 38,83 versus >50. In the case of invasive squamous cell carcinoma mast cell density is 0, but microvessels density is >50. Adenoid cystic carcinoma has the highest mast cell and microvessels density >50, while malignant papilloma has the lowest mast cell and microvessels density, 10 and 15 respectively.

Keywords // Larynx carcinoma, Mast cell density, Microvessels density, Immunohistochemistry CD34 SAB
appropriate admission rate and duration of hospital stay?
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Background: The Hospital at Night (H@N) model proposed that effective clinical care required utilisation of multidisciplinary teams who combined had the skills to meet immediate needs of out-of-hours patients. Established to accommodate the reduction in doctors hours the model has also been trialled in areas of Europe and Australasia. UK clinicians perceive that patients are receiving worse care delivered by inexperienced doctors. This study examined the effect of H@N in Wales, upon admission rate and requirement and length of stay.

Method: A retrospective study using the Patient Episode Database of Wales over a 10 year period. Data were extracted for changes in the rate and requirement of ENT hospital admissions and length of stay dependant on the type of out-of-hours ENT care using a linear regression model.

Results: 53948 patients were identified. Where H@N was introduced there were over a 10 year period.

Keywords // European Working time Directive, Hospital at Night, junior doctors, cross cover

PM14 // MISCELLANEOUS // Miscellaneous
OTOLARYNGOLOGICAL FINDINGS IN A GROUP OF PATIENTS WITH REUMATIC DISEASES
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UNIVERSIDADE ESTADUALDE CAMPINAS

ENT manifestations of rheumatologic diseases represent a great challenge not only to the generalist physician but also to the ENT doctor and rheumatologist. They often represent early manifestations of an autoimmune disease. Nasal, nasopharyngeal and eye manifestations can be the first manifestation of rheumatic diseases and their proper assessment helps the doctor to identify signs of disease activity. The objective of this study is to identify the ENT manifestations in patients with rheumatic diseases in a referral center hospital, regarding an early diagnosis and treatment.

Methods: We performed clinical and complete otolaryngological evaluations in patients randomly selected from the outpatient rheumatology in a fully standardized manner by the use of a standardized form filling during the second half of 2010. Results: In the study group, systemic lupus erythematosus (SLE) patients had predominantly laryngeal manifestations, while patients with Sjögren’s syndrome showed a prevalence of otologic manifestations. Changes in audiometric tests are found in 53% of Wegener’s granulomatosis patients, 80% of relapsing polychondritis, 33% of SLE and 50% of Churg-Strauss syndrome.

Regarding nasal alterations, these were found so prevalent in all conditions, especially Churg-Strauss syndrome. Discussion and Conclusion: This study demonstrated that most patients treated in our hospital has the ENT signs and symptoms commonly associated in previous studies on rheumatic diseases.

Keywords // autoimmune diseases; otolaryngology; rheumatology

PM15 // MISCELLANEOUS // Basic research
Identification of apoptosis in the nasal and nasopharyngeal mucosa in case of isolated post nasal drip syndrome
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INTRODUCTION Current understanding about pathogenesis of chronic nonspecific upper airway inflammation gives still many questions, especially, in case without clear etiology. Data from the literature suggests about implications of apoptosis to the tissue remodelling process in case of chronic inflammatory diseases of upper airway mucosa. The aim of study was to identify apoptosis and tissue remodelling process in nasal and nasopharyngeal mucosa in patients with isolated post nasal drip syndrome.

MATERIALS AND METHODS Biopsies (middle part of lower nasal turbinate and nasopharyngeal arch area) from 31 adult patients were investigated, 18 of them had isolated post nasal drip syndrome and 13 were from control group. Post nasal drip syndrome patients previous clinical investigation excluded sinus inflammation and allergy. Control group was formed from voluntary patients.

We used immunohistological techniques for caspase 3, matrix metalloproteinase 2, matrix metalloproteinase 9, fibronectin, collagen IV.

RESULTS Statistically significant differences between study and control group showed caspase 3, matrix metalloproteinase 9 and fibronectin, but there were no differences in Collagen IV and matrix metalloproteinase2-containing structures.

CONCLUSIONS Presence of caspase 3 immunopositive structures in the nasal and nasopharyngeal mucosa in case of isolated post nasal drip syndrome suggests about implication of apoptosis to tissue remodeling process of airway mucosa.

Keywords // apoptosis, nasal mucosa, nasopharyngeal mucosa

PM16 // MISCELLANEOUS // Basic research
An audit of surgical outpatient clinics outcomes both with and without an allied healthcare specialist department's support, using ENT & Audiology services as a model.
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Consultant-led outpatient clinics held in primary care settings are an attempt for greater waiting-list and therapeutic efficiencies. Often adjuncts such as audiological testing amenities are needed. These facilities are not routinely available in GP practices.

Aims/Objectives: We audited the impact of an in-clinic audit on patient outcomes, to facilitate planning of ENT services.

Methods: We audited the patient outcomes of Initiative clinics over a 2 months period. The clinics were either with or without an in-clinic audiology service. We assessed the outcomes of both groups with regard to Completed Patient Episodes, CPE and Ongoing Patient Episodes, OPE.

Results: 80 patients in the no-audiology (NA) group and 90 patients in the audiology (A) group. Failure to attend rates were different [6.66%(A); 17.5%(NA)]. There were no differences in the CPE rates for both patients discharged [80%; 50%(NA)] and patients listed for operations [6.67%(A); 18.75%(NA)]. OPE rate was doubled in the NA group [6.67%; 13.75%(NA)].

Discussion/Conclusion: ENT clinics without audiology support have patients’ referrals triaged to avoid patients with otological complaints attending. However this patient-selection bias for NA supported ENT clinics confers a significantly greater likelihood of patients requiring a surgical procedure or follow-up appointment. This need for operating theatre and follow-up clinic time has implications for subsequent waiting times and resource allocation.

Keywords // Outpatients

PM18 // MISCELLANEOUS // Miscellaneous
Validating the assessment of otolaryngology trainees using Clinical Evaluation Exercise
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Imperial College

Introduction: Robust assessment of surgeons and trainees is used worldwide for selection into training and monitoring progress. We aim to validate the Clinical Evaluation Exercise (CEE) for assessing otolaryngology trainees

Methods: 27 Otolaryngology trainees at Specialty Training Registrar (STR) level in London were assessed using CEE tabulated by the Intercollegiate Surgical Curriculum Project throughout their training. The assessments started at Core Training (CT) level and continued to ST5 (Range: 3-7 years). The assessment has 7-8 domains and initially had a score out of 6, with an overall performance (OP) rating. This was changed to 0-3 and an overall performance rate out of 4. Scores were analysed using percentage of the OP and individual domain ratings.

Results
PM19 // MISCELLANEOUS // Basic research
The inflammatory microenvironment of laryngeal cancer.
Ida Amir, Justin Yeo, Fiona Hamilton, Andrea Chapman, Kim W Ah-See, Emad El-Omar (United States)

Despite therapeutic advances, 5-year survival for laryngeal cancer remains unchanged in the last 3 decades. Studies have shown that at the molecular level most chronic diseases, including cancer, are caused by a dysregulated inflammatory response. The inflammatory pathways have been implicated in most types of cancer survival and proliferation. To date, there has been no report of inflammatory activity or phenotype within laryngeal carcinoma. We aim to assess the inflammatory microenvironment associated with the tumours. Aims: To examine the inflammatory activity within the laryngeal cancer to further our understanding of the biology of laryngeal carcinogenesis. In this pilot study, inflammatory cell infiltrate was assessed by immunohistochemistry in 10 paired laryngeal carcinoma and adjacent normal mucosa samples. The score of inflammatory infiltrate was determined by the numbers of positive cells. Paired t-test was used to assess the differences between samples. There was statistically significant increase in cytotoxic T cells, macrophages and B cells infiltration.

Keywords // Inflammation, microenvironment, laryngeal cancer

PM21 // MISCELLANEOUS // Miscellaneous
Comparative study of the realism and usefulness of two virtual temporal bone simulators: The VOXEL-MAN TempoSurg and The Visible Ear Simulator
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Introduction: The use of virtual temporal bone simulators(TBS) may benefit the training of ENT surgeons. Several systems are available but no previous studies have been performed to compare the offerings. This study aimed to assess the realism and usefulness of two virtual temporal bone simulators in their ability to mimic the clinical environment. Methods: ENT trainees in the South West of UK were recruited to the study. Each trainee was allowed ten minutes on each simulator. They then completed a questionnaire recording demographic data and rating their perception of realism and usefulness in multiple domains using a 5-point Likert scale. A chi square test was used to detect significant difference between the means of Likert scores. Results: 10 trainees participated in the study ranging from ST3 to ST7. All had prior temporal bone drilling experience. Chi square test on the means of ratings showed no significant difference between the two, e.g. overall realism 2.9 v 3.0 (t2 0.985), usefulness for teaching anatomy 3.8 v 4.0 (t2 0.975), usefulness in teaching surgery 3.2 v 3.3 (t2 0.996), usefulness in teaching drilling technique 3.1 v 3.0 (t2 0.999). Conclusions:TBS may be a useful adjunct in ENT training. The VES presents an affordable alternative to the TempoSurg system. Validation studies for the VES are in progress and an approach to curriculum integration is being considered.

Keywords // Simulation, temporal bone, training, temporal bone drilling

PM22 // MISCELLANEOUS // Other
A prospective audit of creating an ENT outpatient clinic model with a ‘supernumerary’ surgical trainee to optimise both training and service.
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Can an outpatient clinic model be created to satisfy the competing interests of a modern surgical trainee and service provision? We audited whether an ENT outpatient service could be delivered where the surgical trainee is ‘supernumerary’, conferring opportunity for intensive Consultant delivered training. ‘Patient-Planned, Avoid Unnecessary Hospital Review Virtual Clinics’ were introduced into one ENT consultants firm. Backhouse’s Healthclinic Efficiency & Effectiveness Measurement, ‘BHTEM’, Scorecard was created to measure efficiency (new patients seen to number of follow up appointments) and effectiveness (new patients seen per doctor). Results were compared to that of other non-PPAUHR firms. The trainee performed solo and supervised clinics. Performance was evaluated by Completed Patient Episodes, CPE and Ongoing Patient Episodes, OPE. The PPAUHR firm with supernumerary trainee achieved an efficiency ratio of 1:0.77 and effectiveness ratio of 1:5.2 (compared to 1:1.29 and 1:4.88 respectively in non-PPAUHR firms). Trainee CPE rate increased (60% to 67.5%, p=0.1) and OPE rate reduced (40% to 32.5%, p=0.001). Educationally the trainee completed statistically significantly more assessments during the ‘supernumerary’ one-to-one clinics (17) than solo clinics (0) or non-PPAUHR firm’s clinics (2-2.3). This model confers advantages financially, educationally and clinically whilst maintaining above-average service provision as demonstrated by the BHTEM Scorecard.

Keywords // Training.

PM23 // MISCELLANEOUS // Basic research
A Review of etiopathogenesis of nasal and paranasal cavity polyps
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ENT Clinic

Hundred nasal polyps taken from the hospitalized patients at the Clinic for ENT. Transnasal endoscopy and transnasal polypektomy have been performed with all patients. trepanation of maxilar sinuses with 19 patients according to Cadwell Luc. Interventions were performed in general endotracheic anestetiza, by the usual surgery technique, payin attention to the maximal preservation of the integrity of polyp. Techniques for proving and analyzing of specific histo-chemical individual constituents of the polyps are used for verification of the structure of polyps. Histologically, opposite to the attitude of many authors, polyps can surely be divided in the following types and it is recommended to put the approximate percentage of frequency: fibromatic (80%), adenomatosic (15%) and angiomaticos (5%). Ethipopathogenesis of nasal polyps and paranasal cavas is multifactorial and they can have the following origin: a) tumors-like b) no allergic inflammatory and c) allergo-inflammatory. Cystic dilatation of ductus and lumen of glands, as secondary change with mostly acical mucilage, take a great part of the capacity of polyps in most cases. Introduction of the term of edematized polyps does not respond the truth, because it is about the accompanying phenomena. Edematization affirms that there are immunological conflicts so the nasal polyp is most frequently further stimulated by that which makes it enlarge its capacity or deepens the inflammatory as per circulus vitiosus.

Keywords // nasal polyps, etiopathogenesis, histological divide

PM25 // MISCELLANEOUS // Other
ASSESSMENT OF THE EFFECTS OF AURICULAR GRAFT DONOR SITES ON MORBIDITY AND COSMETIC APPEARANCE IN CARTILAGE TYMPANOPLASTY
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We aimed to compare the postoperative morbidity and cosmetic results after using scapha and tragus as auricular cartilage graft donor site. We used fascia graft that did not involve any other additional incision apart from surgical graft harvesting procedures as our control group. We used anthropometric measurements in order to objectively evaluate the patient in terms of visual simmetry, esthetic satisfaction and cosmetic condition. We also clinically compared sensorial and pigmentation changes and scar formation on the skin.
Our study included 234 patients and a total of 257 operated ears. According to the visual analog scale symmetry and esthetic satisfaction all scores were equal to or more than 7 and therefore all were classified as good. We observed no significant difference between these sets of ear’s anthropometric measurements. Clinical sensorial changes were seen in 8 patients (3.4%) in the scapha group and 9 patients (4.4%) in the tragus group. There were no clinical problems observed in our fascia control group that we compared with the scapha and tragus groups. Upon clinical assessment, less sensorial changes on the skin were observed among those patients who preferred scapha graft donor sites compared to those in the tragus group. It was observed that neither scapha nor tragus graft harvesting causes postoperative patient dissatisfaction or esthetic problems.

(This study has been derived from the thesis of AydaZn Husyeyinoglu, which is directed by Cem Uzun)

Keywords // Tympanoplasty, cartilage, cosmetic, graft.

PM26 // MISCELLANEOUS // Miscellaneous
Manipulation under anaesthetic (MUA) of fractured nose
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Manipulation under anaesthetic (MUA) of fractured nose is a common otolaryngological procedure aimed at improving cosmesis and nasal breathing after nasal fracture. This study assessed time to MUA fractured nose, reasons for delay and cancellations, and a clinical intervention to improve these. A two cycle closed-loop audit study was designed. The first cycle retrospectively evaluated MUA fractured nose from October 2009 to August 2010. An intervention of a specific nasal fracture management protocol was introduced. The audit loop was closed with prospective analysis from October 2010 to October 2011.

Results: A total of 227 MUA fractured nose were undertaken during the study periods with significant male preponderance for the procedure (p=0.0002). The median time from injury to surgical correction was 15 days in the first cycle compared to 12.5 post-intervention (p=0.04). The rate of successful manipulations was 76% pre-intervention in comparison to 91% post-intervention (p=0.01). There was a significant relationship between procedures undertaken 17 days post-injury and an unsuccessful outcome (Chi-Squared p=0.03). The cancellation rate was 14% before and 11% after the intervention (p=0.19) and was principally due to patients not attending the procedure (Chi-Squared p=0.02).

Our intervention of a specific nasal fracture protocol has helped expedite time to MUA fractured nose and consequently improved surgical outcomes.

Keywords // Nasal fracture, Surgical outcomes, Time to surgery

PM27 // MISCELLANEOUS // Other
Parapharyngeal abscess is frequently associated with concomitant peritonsillar abscess
Tejs Klug, Therese Ovesen (Denmark)
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Aims: To characterize Parapharyngeal abscess (PPA) patients in a Danish tertiary care centre and evaluate our management.

Materials & methods: A retrospective study on all patients with PPA admitted to the Ear-Nose-Throat Department at Aarhus University Hospital from January 2001 to December 2011 was conducted.

Results: In total, 64 patients (42 males), aged 4-89 years, were included in the study. The median age was 46 years. Thirty four (57%) patients had concomitant peritonsillar abscess (PTA) and in two patients the PPA was part of necrotizing fasciitis. The most frequent surgical approach used was intrapharyngeal incision and tonsillectomy. All patients received antibiotics: Most commonly used were benzylpenicillin and cefuroxime with additional metronidazole. Seven (13%) patients returned to operating theatre due to post-tonsillectomy haemorrhage or insufficient abscess drainage.

Discussion: Tonsillectomy and internal incision of the abscess in combination with a narrow-spectrum penicillin and metronidazole is a safe and efficient approach to PPA management, but carries relatively frequent complications that requires close surveillance in the days after admission. This was especially true for PPA patients without PTA, who seemed more ill and experienced complications, intensive care, intubation, and tracheostomy more often than PPA patients with concurrent PTA. The frequent co-existence of PPA and PTA favours the addition of tonsillectomy to intrapharyngeal incision.

Keywords // parapharyngeal abscess, peritonsillar abscess, tonsillectomy

PM28 // MISCELLANEOUS // Other
The experience of the radiofrequency surgical method in the treatment of patients with diseases of upper respiratory tract.
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Target of the study.
To determine the effectiveness of the surgical method do the diseases of the upper respiratory tract with the use of radiofrequency device (4 mgG). Materials and methods.
64 patients were treated between the age of 1 to 70. We used the radiofrequency (CURIS®, 4 mgG, Zerts Medical) and quantum molecular devices. The following surgical manipulations were done: extirpation of neoformations in the nasal cavity, vasotomy, coagulation of the bleeding vessels of the Kissing shape zone, extirpation of the neoformations do the mouth area, tonsillectomy, tracheostomy, endolaringological surgical interactions, as well as reconstructive surgeries on the larynx and trachea. The objective control before and after operation time was realized by cytological method as well as the method of laser fluorescent diagnostics of the tissue.

Results.
1. After using Curis at the stage of inflammation no degenerative type of process is detected during cytology.
2. Neutrophilic count in the wound in 3 times less with the use of Curis compared with quantum molecular device.
3. The oxygen saturation of the tissue after the surgery did not reduce during use of Curis.

Conclusion.
During the time of conducted study it was detected the Curis is a far more effective device when used during surgical manipulations in comparison to quantum molecular device.

Keywords // Radiofrequency, vasotomy, quantum molecular, tonsillectomy, tracheostomy, surgery.

PM29 // MISCELLANEOUS // Miscellaneous
HEALTH COSTS AND CONSEQUENCES: HAVE UK NATIONAL GUIDELINES HAD ANY EFFECT ON TONSILLECTOMY RATES AND HOSPITAL ADMISSIONS FOR TONSILLITIS?
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Tonsillectomy is a common therapeutic option in the management of recurrent tonsillitis. In 1999, the Scottish Intercollegiate Guidelines Network (SIGN) introduced SIGN 34 outlining appropriate indications for tonsillectomy. This study analyses the effect the SIGN guidelines have had on trends in population rates of tonsillectomy and hospital admissions for tonsillitis and peritonsillar abscess in England, Scotland and Wales.

A retrospective study was undertaken using the health databases of England, Scotland and Wales between 1999 and 2010. Changes in rate of tonsillectomy and hospital admissions for tonsillectomy and peritonsillar abscess were assessed using a linear regression model. Results: 699,898 tonsillectomies were undertaken in the three national cohorts over the study period. Linear regression analysis suggested that implementation of SIGN 34 reduced the population rate of tonsillectomy in England (p=0.005) and Wales (p=0.003) but not in Scotland (p=0.24), and indicated there had been an increase in hospital admissions for acute tonsillitis in all cohorts (England p=0.000008, Scotland p=0.03, Wales p=0.000005) and peritonsillar abscess in England (p<0.05) and Wales (p=0.03). SIGN 34 has reduced tonsillectomy rates in England and Wales but not Scotland. This finding is associated with increasing hospital admissions for acute tonsillectomy in all cohorts, which suggests that the current stipulated guidelines miss patients who would benefit from surgical intervention.
PM30 // MISCELLANEOUS / Basic research

Methylation of CDH1, p16, RARbeta, ATM and FHIT in the group of patients with oral cancer.

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Material and method: patients with surgically treated oral cancer were enrolled in the study. The clinical data included: sex, age, stage of the tumor, histological grading and ultrastructural examination. The group consisted of 52 patients, 4 women and 48 men, aged 28-84. Most cases were characterized by T2 stage of the tumor, N1 nodal involvement and G2 stage. The methylation of five genes - CDH1, p16, RARbeta, ATM and FHIT in the central (A) and peripheral part of the tumor (B) as well as surgical margin (C) were assessed.

Results: Gene methylation did not correlate with T stage, nodal involvement or G malignancy grading. However, there was a statistically significant correlation between a positive margin and the occurrence of neck metastases. In the Kaplan-Meier test, a statistically insignificant correlation between methylation of p16 and CDH1 and survival was found. Interestingly, a statistically significant correlation between methylation of RARbeta and longer survival was also observed. For FHIT, there was only 1 case with methylation and it was a strong purely prognostic factor.

Conclusions:
1. The methylation of CDH1 and p16 dominated in our patients group.
2. Gene methylation was also found in the clean resection margin and the percentage ranged between 1.9 to 26.9.
3. We did not find statistical correlation between gene methylation and TNM status, malignancy grading or survival.

Keywords // oral cancer, methylation, resection margin

PM31 // MISCELLANEOUS / Miscellaneous

COLD DISSECTION, DIATHERMY OR COBLATION? A SYSTEMATIC REVIEW OF THE OPTIMAL TONSILLECTOMY TECHNIQUE.

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Tonsillectomy is a very commonly performed surgical procedure but it is not without its complications. The most serious risk associated with the procedure is postoperative haemorrhage, and a multitude of reports have discussed its relationship to operative technique. The objectives of this systematic review were to compare the postoperative haemorrhage rates associated with three common tonsillectomy techniques: dissection, diathermy and coblation. We searched PubMed, EMBASE, Web of Science, CINAHL, the Cochrane Ear, Nose and Throat Register and the Cochrane Central Register of Controlled Trials (CENTRAL). Randomised controlled trials of children undergoing tonsillectomy or adenotonsillectomy by dissection or diathermy or coblation were selected. Results: 62 studies were identified. Of these only 1 study comparing dissection with coblation, 1 study comparing diathermy with coblation and 1 study comparing dissection with diathermy met our inclusion criteria. Thus, no meaningful meta-analysis could be undertaken. There are insufficient data to show that one method of tonsillectomy is superior to others in terms of having the lowest postoperative haemorrhage rate. Large, well-designed randomised controlled trials are therefore necessary to determine the most favourable method for tonsillectomy.

Keywords // Tonsillectomy, Primary haemorrhage, Secondary haemorrhage, Dissection, Diathermy, Coblation

PM32 // MISCELLANEOUS / Miscellaneous

IT’S CRUNCH TIME: HOW TIMING INFLUENCES THE SUCCESS RATES OF MANIPULATION UNDER ANAESTHETIC OF FRACTURED NOSE

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Manipulation under anaesthetic (MUA) of fractured nose is a common otolaryngological procedure aimed at improving cosmesis and nasal breathing after nasal fracture. This study assesses time to MUA fractured nose, the reasons for delay and cancellations, and a clinical intervention to improve these. A two cycle closed-loop audit study was designed. The first cycle retrospectively evaluated MUA fractured nose from October 2009 to August 2010. An intervention of a specific nasal fracture management protocol was introduced. The audit loop was closed with prospective analysis from October 2010 to October 2011.

Results: a total of 227 MUA fractured nose were undertaken during the study periods with significant male preponderance for the procedure (p=0.002). The median time from injury to surgical correction was 15 days in the first cycle compared to 12.5 post-intervention (p=0.04). The rate of successful manipulations was 76% pre-intervention in comparison to 91% post-intervention (p=0.01). There was a significant relationship between procedures undertaken 17 days post-injury and an unsuccessful outcome (Chi-Squared p=0.03). The cancellation rate was 14% before and 11% after the intervention (p=0.19) and was principally due to patients not attending the procedure (Chi-Squared p=0.02). Our intervention of a specific nasal fracture protocol has helped expedite time to MUA fractured nose and consequently improved surgical outcomes.

Keywords // Nasal fracture, Surgical outcomes, Time to surgery

PM33 // MISCELLANEOUS / Basic research

DOES TEMPERATURE EFFECT TYMPANOMETRIC EVALUATION OF EAR CANAL VOLUME? A SCIENTIFIC STUDY USING AN EAR CANAL MODEL.

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Tymanometric evaluation is a routine part of the complete otological examination. Although tympanometry in standard conditions is known to accurately assess ear canal volume, the effects of variation in temperature have not been reported. This study examines the effect of temperature on the capability of the tympanometer to accurately evaluate external auditory canal volume. An Ear Canal Model was designed using laboratory equipment including a 5 ml calibrated clinical syringe. This was attached to the sensing probe of a Kamplex tympanometer. Two basic trials were undertaken: a) evaluation of the effect of temperature on the tympanometer in simple canal volume measurement and b) assessing canal volume with partial canal occlusion. These studies were conducted at 0, 10, 20 and 30 °C in a Thermotron climatic chamber. Results: at volumes of 1.4 cm3 or below, tympanometry had a very high level of correlation (Spearman’s Rho =1) with the actual volume present at all tested temperatures except 0 °C. There was no significant relationship between temperature and degree of error in ear canal volume measurement in both simple and partially occluded models. The ability of the Kamplex tympanometer to accurately and precisely assess ear canal volume up to a volume of 1.4 cm3 is not effected by ambient temperature. These findings suggest the Kamplex tympanometer could be used as an effective objective tool in both laboratory and human models of the external auditory canal.

Keywords // Tympanometer, Temperature, Ear canal volume, Ear Canal Model

PM34 // MISCELLANEOUS / Basic research

A pilot study to investigate the effects of hot drinks on nasal airway resistance and nasal airflow in health and in disease

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Introduction
This study aims to investigate the effects of hot drinks on nasal airflow and nasal airway resistance in both healthy individuals and in those suffering from common cold.

Method
The study is a randomised, parallel group, open design control trial conducted in two phases. In the first phase, healthy individuals were recruited and
randomised to receive either a hot or room temperature drink. Nasal airway resistance and the subjective feeling of nasal airflow was measured pre-drink, immediately after, 15 minutes after and 30 minutes after the drink. In the second phase of the study, individuals suffering from common cold were recruited and study conducted similar to the first phase.

Results
In the healthy phase of the study, subjective sensation of nasal airflow improved significantly after the hot drink but remained the same after room temperature drink. Nasal airway resistance increased significantly after the hot drink, but remained the same after room temperature drink. Nasal airway resistance remained the same after the hot drink, but reduced significantly after the room temperature drink.

Conclusion
In both phases of the study hot drinks improved the subjective sensation of nasal airflow despite an increase in nasal airway resistance. Room temperature drinks offered no such benefit.

Keywords // common cold, hot drink

PM35 // MISCELLANEOUS // Basic research
Recipes of nasal douching solution. Can their ingredients potentiate infection?
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Objectives
1) How long can a homemade nasal douching solution remain usable for?
2) Which recipe will support growth of Staphylococcus aureus and Pseudomonas aeruginosa when challenged with them and effect of temperature on their growth?

Material and methods
We have tested three recipes commonly used for preparing nasal douching solutions. These are:
1) Boiled water cooled to room temperature + salt
2) Recipe 1 + baking soda
3) Recipe 2 + sugar

These solutions were prepared under home conditions and stored at 22 degree centigrade (room temperature) and at 4 degree centigrade (4C) in the fridge. The first part of the study involved taking cultures from these solutions on day 0, 3, 6, 9, 12 and 17. The second part of the study involved challenging these solutions with Staphylococcus aureus and Pseudomonas aeruginosa and solutions were cultured on day 0, 3, 6, 9, 12 and 17 at 4 and 22 degree centigrade (22C).

Results
1) No growth was observed in all the three recipes at 4C.
2) Bacillus was found as a common contaminant in all the recipes.
3) Both Staphylococcus aureus and Pseudomonas aeruginosa could not grow in recipe 1 and at both 4C and 22C.
4) Exponential rise in the growth of Pseudomonas at 22C in recipe 3.

Conclusions
1) Once prepared an unused nasal douching solution remain usable for up to 17 days at 4C.
2) Sugar in nasal douching recipe enhances growth of Pseudomonas aeruginosa at 22C. This may affect nasal surgery patients douching with this solution.

Keywords // nasal douching

PM36 // MISCELLANEOUS // Other PhD
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UMF Iasi

Sudden hearing loss- corticoid therapy
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Objectives
In this study we analyzed hearing recovery rates in patients diagnose with ISSNHL after steroid treatment. We evaluate the therapeutic efficacy of intratympanic dexamethasone (ITD) injections added to systemic steroids (salvage therapy) in patients with idiopathic sudden sensorineural hearing loss (ISSNHL) and of IT therapy as first line therapy.

Methods
A retrospective chart review was performed for patients diagnose with ISSNHL from last three years. Patients were treated with systemic corticoid therapy and/or intratympanic therapy

Results
68.8% of patients responded to treatment with steroid, while 42.22% failed initial treatment with systemic steroid. 36.8% of the non-responders to systemic therapy, opted to receiving IT salvage therapy while 63.5% did not.

Conclusion
ITS injections are an effective salvage therapy after failure with OS. As the efficace of systemic steroid treatment can be questioned, our results suggest that initial therapy of ITS with systemic therapy should be considered to provide patients with the best chance of hearing recovery. This conclusion is based on data showing improve efficacy of earlier ITS therapy with no complications.

Keywords // sudden hearing loss, corticoid therapy

PM37 // MISCELLANEOUS // Basic research
Middle Ear Mucosal Regeneration with Tissue-Engineered Autologous Cell Sheets
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The likei university school of medicine

For patients with cholesteatoma to recover the physiological function of the middle ear after surgery, the mucosa of the middle ear cavity should be preserved. However, it is difficult to preserve the mucosa of patients with cholesteatoma, because most of these patients have a severe lesion in the middle ear. Therefore, regeneration of middle ear mucosa and pneumatization of the mastoid cavity is critical for prognosis after middle ear surgery.

We examined whether implantation of tissue-engineered cell sheet into damaged middle ear cavity would promote mucosal regeneration. We harvested specimen of middle ear mucosal tissue or nasal mucosal tissue from rabbit. Tissue-engineered cell sheets were fabricated by harvested cells for three weeks on temperature responsive cell-culture surfaces. Temperature responsive polymer is grafted onto the dishes, allowing various types of cells to adhere and proliferate at 37 degrees. The cells spontaneously detach when the temperature is reduced below 32 degrees without the need for proteolytic enzymes. After middle ear mucosa had been harvested with a simple reduced-temperature treatment were transplanted directly to the denuded bulla surface. At 8 weeks after transplantation, they had good regenerated mucosal enfacement with clear inhibition of bone hyperplasia and mucosal thickening. We believe that celsheets have the potential to be useful as graft material for post operative middle ear mucosal regeneration.

Keywords // Mucosal regeneration, Cell sheet, Cholesteatoma

PM38 // MISCELLANEOUS // Other
Inflammatory pseudotumor of head and neck: report of three cases
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Background:
Inflammatory pseudotumor (IPT) is an idiopathic granulomatous lesion characterized by myofibroblastic proliferations and prominent inflammatory component. It behaves as a locally benign or aggressive lesion, clinically and radiologically mimicking a neoplastic process. It may occur at virtually any anatomic site and the occurrence of IPT in the head and neck region is uncommon.

Case summary:
We report three cases of IPT arising from head and neck region. There were two males and one female. They occurred at orbit, submandibular gland, and parapharyngeal space. Histologically, two cases were IPT, NOS, and the other was IgG4 related IPT. The case from submandibular gland was completely removed by surgical resection and did not recur after surgery. The other cases from orbit and parapharyngeal space were treated by local or systemic administration of corticosteroid and kept stable disease.
Dysregulation of histone acetylation in Wegener's granulomatosis development

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Backgrounds:

Wegener's Granulomatosis (WG) is a systemic vasculitic disease. It has been reported that ANCA activate neutrophils resulting in induction of glomerulonephritis in WG by released hydrogen peroxide. Histone deacetylase (HDAC) deacetylates histone and deacetylates histone associates with gene repression or gene silencing. In this study, we investigated whether HDAC and HAT function decreased in WG patients. We also discuss the functional status of histone acetylation in WG in relation to other diseases.

Patients and Methods:

Seven patients with WG were examined. Fresh PBMCs were isolated from the WG patients and Healthy subjects (HSs). HDAC2 expression was analyzed by Western blot. We also measured the HDAC and HAT activity in PBMCs from WG patients.

Results:

We found that HDAC activity was significantly decreased in WG patients compared to that in HSs (p < 0.05). Furthermore, we found a negative correlation between HDAC activity and c-reactive protein titer. HAT activity was significantly increased in WG patients (p < 0.05).

Discussion:

These results suggest that function of HDAC is reduced in WG and that this reduction affects WG-related inflammation. We have also confirmed that HAT activity is greater in WG patients. Thus, HDAC and HAT may serve therapeutic targets, the modulation of which may allow the eventual regulation of WG development.

Keywords: histone deacetylase, histone acetyltransferases, ANCA, Wegener's granulomatosis

Histopathology of Cochlear Otosclerosis: Implications for Cochlear Implantation

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UCL Ear Institute

Introduction: Cochlear otosclerosis is the occurrence of otosclerosis in the otic capsule involving the cochlear endosteum leading to a sensorineural or mixed-type hearing loss. The aim of this study was to describe the pathologic changes in temporal bones (TB) with cochlear otosclerosis that may have implications for cochlear implantation.

Methods: 15 human TB with otosclerosis from the archival library of the UCL Ear Institute were used for this study. In each TB we studied: 1) Medial wall of the middle ear and in particular the horizontal segment of the facial nerve canal; 2) the round window niche and the corresponding part of the scala tympani; 3) the area of the labyrinthine segment and first genu of the facial nerve.

Results: 6 TB revealed otosclerotic pathology spanning the otic capsule between the cochlear endosteum and the facial nerve canal. The labyrinthine facial nerve was enveloped by otosclerosis in 2 cases, while the horizontal segment was involved in 4 TB. Complete obstruction of the round window niche was observed in 3 cases, while round window niche obstruction with concomitant thickening of the round window membrane was observed in 4 TB.

Conclusions: High-resolution imaging studies would be advisable in advanced otosclerosis to look for possible round window and / or scala tympani obstruction by otosclerotic changes. The histology described underpins the need to counsel patients regarding the possibility of facial nerve stimulation and why it may occur.

Keywords: histopathology, otosclerosis, cochlear implantation

Towards a low-cost global temporal bone tele-pathology network

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Human temporal bones provide an important resource for the study of inner ear pathology. Unfortunately, there are only a few remaining temporal bone laboratories worldwide with a sufficient number of specimens for further study. This has a serious impact on both research collaboration and training of future researchers. Such difficulties may be partially overcome by using remote access microscopy via a virtual network of temporal bone pathology laboratories.

Commercial telepathology systems are extremely expensive, especially those involving digital cameras fixed on robotic microscopes or the combination of digital cameras and microscopes with teleconferencing software; their price can be anything up to £150,000.

The aim of the present study is to present the set-up of a low-cost temporal bone telepathology system the authors set up for the purposes of a temporal bone histopathology study at the University College London Ear Institute. This network facilitated live sessions between the student (London) and supervisor (Athens).

The proposed set up is definitely functional and quite reliable, with a total cost of less than £1,000 excluding the microscope. Overall, the proposed system can be easily set up and adjusted to any optic microscope, providing the researchers with a valuable low cost network-group tool for both diagnostic and educational purpose.

Keywords: telepathology, temporal bone,
PM43 // MISCELLANEOUS // Miscellaneous

Antimicrobial Adherence: Are Otolaryngologists following local guidelines?
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Background:
Tailored trust antibiotic guidelines devised by microbiologists are now widespread nationally. Local guidelines aid the clinician in antimicrobial prescribing, while accounting for local factors such as sensitivities to organisms, cost and rates of C.Difficile.

Methods:
A prospective two cycle audit of otolaryngology admissions to a district general hospital requiring antibiotic therapy. Data was collected according to a set protocol based on local microbiology guidelines. The first cycle was presented locally where an action plan was devised. Results:
40 notes were reviewed in 2 cycles, with 20 notes in each cycle. 58%(23) of the patients were found to be on two or more antibiotics. 1st Cycle: Indications for antibiotic therapy were documented in the notes 85%(17) of the time however the type of antibiotic given was only documented in 10%(2) of cases, and only 40%(8) of antibiotics prescribed complied with trust guidance. 2nd Cycle: Documentation of the indication for antibiotic therapy was recorded in 80%(16) of notes, however there was an improvement in the documentation of the type of antibiotic being prescribed 40%(8) and also an improvement in compliance with trust guidelines 65%(13).

Conclusion:
Adherence to guidelines and documentation appears to be improving. Further improvement can be made by creating more guidance covering all common otolaryngology conditions. Education will also ensure appropriate anti-microbial prescribing.

Keywords // Antimicrobial Adherence

PM44 // MISCELLANEOUS // Miscellaneous

Eagle's syndrome, a rare cause of neck pain
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Eagle's syndrome (ES) sometimes called styloid or stylohyoid syndrome is defined as the symptomatic elongation of the styloid process or mineralisation of the stylohyoid ligament. The symptoms related to this condition can be confused with those attributed to a wide variety of facial neuralgias. We report a 34-year-old male patient who presented with a recurrent neck pain and dysphagia. He was diagnosed to have an elongated styloid process. An intraoral transstonsillar shortening of the styloid process was done. We discuss the clinical presentation, diagnosis and treatment of ES as well as a review of the literature.

Keywords // Eagle's syndrome

PM45 // MISCELLANEOUS // Basic research

Immunohistochemical Profile of Solid Cell Nest of Thyroid Gland
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It is widely held that solid cell nests (SCN) of the thyroid are ultimobranchial body remnants. SCNs are composed of main cells and C cells. It has been suggested that main cells might be pluripotent cells contributing to the histogenesis of C cells and follicular cells, as well as to the formation of certain thyroid tumors. The present study sought to analyze the immunohistochemical profile of SCN and to investigate the potential stem cell role of SCN main cells. Tissue sections from ten cases of nodular hyperplasia (non-tumor goiter) with SCNs were retrieved from the files of the Hospital Infanta Luisa (Seville, Spain). Parathormone (PTH), calcitonin (CT), thyroglobulin (TG), thyroid tran- scription factor (TTF-1), galectin 3 (GAL3), cytokerin 19 (CK 19), p63, bcl-2, OCT4, and SALL4 expression were evaluated by immunohistochemistry. OCT4 protein expression was detected in only two cases, and SALL4 expression in none. Positive staining for bcl-2 and p63, and negative staining for PTH, CT, and TG in SCN main cells are both consistent with the widely accepted minimalistic definition of stem cells, thus supporting the hypothesis that they may play a stem cell role in the thyroid gland, although further research will be required into stem cell markers. Furthermore, p63 and GAL-3 staining provides a much more sensitive means of detecting SCNs than staining for carcinoembryonic antigen, calcitonin, or other markers; this may help to distinguish SCNs from their mimics.

Keywords // Solid cell nests . Main cells . Stem cells . p63 . Galectin-3

PM46 // MISCELLANEOUS // Basic research

Histological Organization is Similar in Human Vocal Muscle and Tongue - A Study of Muscle and Nerves.
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Universidade Federal do Rio Grande do Sul

One hypothesis to explain the wide range of movements found in the vocal fold is based on the variety of muscle fiber orientations in the thyroarytenoid (TA) muscle. The tongue (TO) muscle is considered the most complex structure in the body in terms of muscle fiber orientation and movements. Thus, possible similarities between these two muscles and their innervations, the recurrent laryngeal nerve (RLN) and hypoglossal nerve (XII), could explain the complex movements executed by the vocal fold. Therefore, this study investigates the histological organization of TA and TO muscles and their innervations (n = 12 subjects). The muscle fibers were classified into three categories according to their orientation (transverse, undefined, and longitudinal). To quantify the percentage of fibers in each category in the TA and TO, the shape coefficient (shape Z) was estimated. Qualitative analysis and estimation of fiber area and shape Z show that the histological organization of TA and TO muscle is similar. Both muscles present the same percentage of transversal (72%), undefined (35%), and longitudinal fibers (10%). By contrast, the authors’ analysis of the morphometric parameters of the RLN and XII shows that there is no correlation between these nerves. In conclusion, in humans, TA and TO muscles present similar histological organization and this finding could help to explain interesting questions about human phonation.

Keywords // Thyroarytenoid muscle""Tongue muscle""Recurrent laryngeal nerve""Hypoglossal nerve""Histology."

PM47 // MISCELLANEOUS // Basic research

Histological Asymmetry of the Human Recurrent Nerve
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Histological studies of the human recurrent laryngeal nerves (RLNs) have described differences in fiber length and thickness between the right and left RLNs. Histological differences between the right and left RLNs could explain the synchronicity of laryngeal musculature contraction despite the differing nerve lengths. The purpose of this investigation was to shed some light on this paradigm by obtaining estimates of some morphometric parameters, such as intraperineural area, intraperineural perimeter, fiber area, fiber perimeter, fiber density (number of fibers/mm2), and total number of fibers in the right and left RLN of humans. Thus, the right and left RLNs were studied in a total sample of eight human specimens obtained from necropsies. The nerves were analyzed using histology, and the morphometric parameters were measured using Image Pro Plus Software 4.1 (Media Cybernetics, Silver Spring, MD, USA). No statistical differences between the two RLNs were observed in the intraperineural area, intraperineural perimeter, density (number of fibers/mm2), and total number of fibers. However, the area and perimeter of fibers of the right RLN were statistically larger when compared with those of the left RLN (21% and 11%, respectively. In conclusion, we show that in humans, the area and perimeter of the right RLN are larger than those of the left RLN. This morphological finding is probably related to the different time of arrival of the stimulus to the laryngeal musculature.

Keywords // Recurrent""Laryngeal nerve""Histology"" Morphometry""Humans.
Early report of our descriptive study regarding the otolaryngologic manifestation of APS patients. Method: All patients were evaluated with a self-administered questionnaire regarding ORL manifestations, audiology, electronystagmography (ENG) in patients with vestibular symptoms, flexible nasal endoscope and the screening version of Hearing Handicap Inventory for the Elderly-Screening. Results: From January 2011 to November 2012 we enrolled 10 patients with a mean age of 49.9 years (range 33-69). APS mean disease evolution was 64.9 months (range 2-135). Nine patients have primary APS and one has systemic lupus disease with APS. Only one patient with Susac syndrome has sensorineural hearing loss. Three patients had vertigo as a symptom but ENG did not show vestibular dysfunction. No patient had hyposmia or symptoms of chronic rhinosinusitis. Half of the patients referred dry mouth and 30% burning sensation of the tongue. Conclusions: Our patents showed that dry mouth and burning sensation were the most common complaint. Sensorineural hearing loss might be a late manifestation of APS. At least once a year an otolaryngologist assessment is needed to identify and delay sequelae.

Keywords: sensorineural, hearing loss, antiphospholipid syndrome
later he was free of symptoms, while the nonspecific measures of inflammation (CRP and ESR) decreased to normal.

Discussion

Even though the introduction of fluoroquinolones has revolutionized the treatment of MOE, a 5-10% morbidity is still reported in the literature. Our patient was initially treated with ciprofloxacin, however after a period of a few months the symptoms relapsed. In such cases, a fungal infection should be suspected and tissue cultures should be taken.

Keywords // MAUGNANT OTITIS EXTERNA, ALTERNARIA SP.

PM53 // MISCELLANEOUS // Miscellaneous

PRESENTATION OF GRANULOMATOSIS IN ENT: A BRAZILIAN REALITY

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Granulomatosis diagnosis can be a real challenge to the otolaryngologist, due to variety of presentation, as by various etiologies. In Brazil, many of granulomatosis are endemic, or have significantly higher prevalence compared to the rest of the developed countries. For example the Tuberculosis, Leishmaniasis, Histoplasmosis, Leprosy and Syphilis.

OBJECTIVE: Report the presentation and treatment of patients with granulomatosis diseases of ENT, between the years 2010 and 2011 at the Beneficência Portuguesa de SÃO Paulo Hospital, in Brazil.

METHODS: retrospective review of our medical records

RESULTS: 02 cases of leishmaniasis with nasal manifestations, 02 cases of Wegner’s granulomatosis with nasal manifestations, one of them during a FESS post operative period; 01 case of perichondritis of the ear pavilion by Wegner’s granulomatosis as first manifestation; 01 case of chronic otitis media with dehiscence of surgical suture as first sign for Tuberculosis investigation.

CONCLUSION: Granulomatous diseases are not rare in otolaryngology, however, perichondritis as the initial manifestation of Wegner’s disease, nasal leishmaniasis and tuberculosis in the middle ear are rare in the literature. Tuberculosis and Leishmaniasis are rare at developed countries, and show a different reality of manifestations in tropical countries

Keywords // granulomatosis, Wegner, Tuberculosis, Leishmaniasis

PM54 // MISCELLANEOUS // Basic research

MICROBIOLOGICAL RESEARCH MOUTH IN PREGNANT WOMEN

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According to leading dentists, pregnancy is a critical period for the dental health of the woman.

Purpose: To study the quantity and quality of oral microflora and performance of local protective factors in pregnant women with periodontitis according to trimester.

Materials and methods. For this we examined 156 pregnant women aged 25-40 years, with periodontitis and are on a survey in the hospital 1–6 Tashkent.

All the patients were conducted microbiological research.

Results and discussion. According to microbiological studies revealed that pregnant women with periodontitis 1 trimester (M+mKOE / ml) were detected anaerobes (5,11 Â± 0,17), lactic acid (2,0Â±0,10), peptostreptococcus (4,60Â±0,18), aerobic (7,30Â±0,25), Staphylococcus aureus (5,15Â±0,19), Staphylococcus epidermidis (2,47Â±0,11), Streptococcus salivarius (4,30 Â± 0,15 ) Streptococcus mutans (5,27Â±0,17), Streptococcus mitis (3,15 Â± 0,12), Escherichia (2,29Â±0,12), fungi of the genus Candida (4,30Â±0,01).

As can be seen from the data in the examined pregnant women, there are significant diisbiotic shifts in anaerobic and in the optional group of microbes. Apparently these strains with a broad set of enzymes will determine pathogenicity and monitor oral health of pregnant women. Thus, pregnant women with periodontal disease in all three trimesters are diisbiotic shifts characteristic feature of which is to reduce the growth in the number of lactobacilli and staphylocci and fungi of the genus Candida.

Keywords // pregnant women, periodontitis

PM55 // MISCELLANEOUS // Basic research

SINUSITIS AND HEADACHE

Ali Meteoglu, Omer Karadas (Turkey)

Ankara Mevki Askter Hastanesi

Introduction: Sinus headache and primary headaches are frequently confused with one another. Acute infective rhinosinusitis may cause pain but chronic sinusitis is usually painless and pain only occurs during acute exacerbations or when there is obstruction of the sinuses ostia by polyps. There is increasing evidence that endoscopic sinus surgery does not heal headache and should not be offered to the patients as an ultimate solution.

The aim of this study was to determine primary headache types in the patients with sinusitis and point out that sinusitis can be trigger primary headaches.

Methods: 33 consecutive patients with sinusitis defined by American Academy of Otolaryngology-Head and Neck Surgery (AAO-HNS) criteria were referred to neurologist and evaluated prospectively on International Headache Society (IHS) criteria for primary headaches.

Results: IHS diagnosis of migraine was given to 12 patients ,and 5 patients met IHS criteria for probable migraine, 5 patient had sinus headach, remaining 11 patients had not headache. Almost half of patients with sinusitis also satisfied the IHS criteria for primary headache.

Conclusion: This study illustrates the complexity of evaluation patients with sinusitis and headache. Neurologist need to be alert to the possibility that a patient's headache may be secondary to or triggered by sinusitis.

Keywords // sinusitis, primary headache

PM56 // MISCELLANEOUS // Other

Posttonsillectomy morbidities: a randomized, prospective controlled clinical trial of cold dissection versus Thermal Welding tonsillectomy on the same patient

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Bagciar Education and Research Hospital

Although various new surgical technologies and devices have been described to decrease posttonsillectomy morbidities, cold dissection is still the most common used technique. The frequency and severity of these morbidities depends on patients general status, food intake, environment besides surgical techniques. Studies comparing surgical techniques are lack of status of patient general conditions. In this study, we planned to compare the two most popular techniques among otolaryngologist, Thermal Welding and Cold Dissection, at the same patient simultaneously. 40 children undergoing adenotonsillectomy were included. One side was removed with Thermal Welding and another side was with cold dissection. There was significant decrease in intraoperative blood loss on the TW side when compared to CD side. There was a gradually decrease on pain scores on following days and there was no significant difference in throat pain scores on the first, third and 14th days postoperatively between TW and CD sides. In the CD side, tissue healing was significantly shorter, less pain was reported, compared to the TW side. CD is a comfortable technique especially for patient. There is less postop pain and shorter tissue healing. However TW has advantage of shorter operation time and lesser bleeding intraoperatively. Both of them might be safely preferred depending on surgeon.

Keywords // Tonsillectomy, Thermal Welding; Cold Dissection

PM57 // MISCELLANEOUS // Basic research

Role of Macrophage Migration Inhibitory Factor in Inner Ear

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Fukuoyama City Hospital

Background

Age-related hearing loss, also known as presbycusis, is a common sensory disorder among especially elderly persons. Although no clear etiology is known, several genetic, environmental and biological factors are associated with this disorder. Macrophage migration inhibitory factor is a multiple-functional molecule.

Objective
The purpose of this study is to show the role of macrophage migration inhibitory factor in inner ear. 

Methods: We used macrophage migration inhibitory factor-deficient mice on BALB/c background and wild type mice in this study. Hearing thresholds were tested by click-evoked auditory brainstem response at the age of 1, 3, 6, 9, 12, and 18 months. The cochlear hair cells were investigated by scanning electron microscopy.

Results: The positive immunohistochemical expression of macrophage migration inhibitory factor was observed in the inner ear of wild type mice. The macrophage migration inhibitory factor-deficient mice had increased hearing loss as compared with wild type mice at the age of 9, 12, and 18 months. The loss of outer hair cells was observed in macrophage migration inhibitory factor-deficient mice.

Conclusion: The macrophage migration inhibitory factor-deficient mice showed progressive age-related hearing loss. These findings suggest that macrophage migration inhibitory factor has an important role in inner ear of mice and is associated with presbycusis.

Keywords: macrophage migration inhibitor, hearing loss

PM58 // MISCELLANEOUS // Basic research
Cochleograms in noise hearing loss mice
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INTRODUCTION: The cochleogram is a graphic record which represents hair cells along the length of the basilar membrane and relates cell damage with frequency specific values in hearing thresholds. We want to determine the distribution of the inner and outer hair cells at the organ of Corti (OC) whilst a counting quantitative method in noise induced hearing loss mice.

MATERIALS AND METHODS: 12 two month-old male CBA/CaOlaHsd mice were evaluated with auditory brainstem responses (ABR) and divided in 2 groups: control (n=6) and noise-exposed (violet swept sine noise, 105 dB SPL for 30 minutes, n=6).

The cochlea from both ears were extracted. Using a fluorescence microscope and stereoretical software, the total length of the OC was divided into equidistant 5% sectors. The number of inner (IHC) and outer (OHC) hair cells in randomly distributed areas were determined, and cell density (cells/um2) was estimated for each sector.

RESULTS: Mice exposed to noise showed an evident threshold shift (40-50dB) and altered cochlear morphology, with disruption of stereocilia and loss hair cells, mainly OHC, especially in the basal turn of the cochlea. The overall density was: Left IHC:4.08, OHC:8.66, ratio IHC/OHC:2.11; Right IHC:3.93, OHC:8.40, ratio IHC/OHC:2.14. However, the control group presented a normal cytoarchitecture and a homogeneous distribution of hair cells along the cochlea. (Left IHC:4.10, OHC:12.12, ratio IHC/OHC:2.95; Right IHC:4.20, OHC:12.22, ratio IHC/OHC:2.91).

Keywords: cochleogram; noise hearing loss

PM59 // MISCELLANEOUS // Other
Hospital at Night (H@N) and ENT. Has workforce transformation effected hospital admission rate, appropriate admission rate and duration of hospital stay?
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Background: The Hospital at Night (H@N) model proposed that effective clinical care required utilisation of multidisciplinary teams who combined had the skills to meet immediate needs of out-of-hours patients. Established to accommodate the reduction in doctors hours the model has also been trialled in areas of Europe and Australasia. UK clinicians perceive that patients are receiving worse care delivered by inexperienced doctors. This study examined the effect of H@N in Wales, upon admission rate and requirement and length of stay.

Method: A retrospective study using the Patient Episode Database of Wales over a 10 year period. Data were extracted of all Emergency ENT admissions to all Health-boards accepting ENT referrals. Data were examined for changes in the rate and requirement of ENT hospital admissions and length of stay dependent on the type of out-of-hours ENT care using a linear regression model.

Results: 53948 patients were identified. Where H@N was introduced there were a statistical increase in admission numbers (p<0.05).

Keywords: // European Working Time Directive, Hospital at Night, Junior doctors, cross cover

PM60 // MISCELLANEOUS // Miscellaneous
ENT Emergencies QuickGuide: A one-page approach in aiding junior doctors covering ENT speciality
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Royal Blackburn Hospital, United Kingdom

Aim: To assess if the introduction of ENT Emergencies Quickguide can aid junior doctors and improve confidence when managing ENT emergencies.

Methods: 2 cycles of survey (3 months apart) were carried out to gauge confidence of six Maxillo-facial doctors in managing ENT emergencies. After the first cycle, poster-sized Quickguide were made available in treatment rooms and A4 card or PDF (for smartphones) copies given to participants. Prospective audit for frequency of use was also carried out.

Results: 6/6 questionnaires were completed (both cycles). Average acute ENT patients seen during cross-cover: [n=3]. Two-thirds of participants referred to Quickguide for “all patients”, and the rest used it for “most patients”. Most references were made in the first 2 months (38 times/44 days). Confidence level improved among participants in managing ENT patients from “Not at all confident” (First cycle) to “Somewhat confident” (Second cycle). Concise algorithmic layout in managing ENT emergencies and cues to contact seniors early (Traffic Light System) were among the positive comments from participants.

Conclusions: Junior doctors cross-covering ENT frequently have little experience in managing acute emergencies. The introduction of the QuickGuide manual is a valuable adjunct to existing departmental handbooks in aiding junior doctors to manage patient more confidently.

Keywords: ENT emergencies, Junior doctors, handbook, cross cover, quick guide

PM61 // MISCELLANEOUS // Basic research
Are final year medical students confident in performing basic ENT Examinations?: An undergraduate survey
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Introduction: Previous research in the United Kingdom has shown that medical students receive inadequate exposure to ENT. Few studies have assessed the subjective opinion of medical students’ regarding their ability to perform ENT examinations. We therefore decided to assess final year medical students’ perceived confidence in performing ENT examinations.

Methods: An online survey was disseminated to final year medical students at a London medical school, assessing confidence in examining the ear (otoscopy and tuning fork tests), the facial nerve, the neck, the nose and managing epistaxis.

Results: 63 students were included. The majority of students were confident in otoscopy (82.5% confident) and tuning fork tests (93.7% confident). Students were less confident in examining the neck (60.3% confident). The majority of students were not confident in examining the nose (65.1% not confident) or managing epistaxis (57.1% not confident).

Conclusion: These results suggest that medical students are confident in certain aspects of ENT examination, with a lack of confidence in some other areas. This corroborates further with current evidence that ENT experience is inadequate at an undergraduate level. It is important that final year medical students are equipped to perform these examinations, as they are likely to use these skills as junior doctors. Moreover, many of these students will pursue general practice in their future career, where these basic ENT skills are important.
Spontaneous resolution of intraparotid hematoma without unknown etiology

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The majority of parotid masses are benign lesions. Benign lesions are slowly growing and tend to have longer duration of symptoms, in contrast, malignant lesions are fast growing and becomes symptomatic in a few time. Here in, we report a 30-year-old male presented with rapidly progressive enlarging painful mass on his left side of parotid region. He determined his lesion seven days ago and size of lesion was enlarged by day by rapidly. As the lesion enlarged, the pain was increased. He had no history of head and neck surgery or trauma. There was a firm painful, fixed 5x 4 cm in size non fluctuant lesion at the left parotid region. After consultation with interventional radiology and vascular surgery, there was no certain diagnosis and we thought that this might be a spontaneous intraparotid bleeding with unknown etiology and decided to wait for a time for spontaneous resolution. The lesion was spontaneously resolved in few months without any complication and sequelae. Although multiple specific conditions may predispose a patient to develop a hematoma, spontaneous atraumatic hematoma without an underlying medical or iatrogenic condition is extremely rare. Differential diagnosis is an important issue for choosing the best treatment option. In our case despite of the classic surgical treatment we prefer to let him spontaneous resolution and within a 2 month period the lesion disappeared completely.

Keywords: parotid mass, hematoma, spontaneous resolution

PM65 // MISCELLANEOUS // Basic research

New potential of the old method in determination of state of the autonomic nervous system in patients after septoplasty.

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Objectives: To determine if it is possible to use ST segment (STS) as a measure of the dynamics of the activity of the autonomic nervous system in patients after septoplasty under different types of analgesia.

Materials and methods: Holter recording Continuous ECG recordings were obtained using 24-hour holter monitors (Shiller DEX-DT-200) on 50 healthy men aged from 25 to 38 after septoplasty. STS difference were estimated by means of Student’s t-test (p)

Keywords: ST-segment variability, analgesia, septoplasty, autonomic nervous system, pain syndrome.

PM66 // MISCELLANEOUS // Other

The pain level distribution of postoperative patients in otorhinolaryngology

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Objectives: To determine the pain level distribution of acute postoperative syndrome in ENT patients.

Materials and methods: 338 patients after surgical intervention under local 10% lidocaine or 1% novocaine anesthesia were divided into 2 groups. The first group contained 210 patients with nasal septum deviation, the second group contained 128 patients with other ENT disorders: vasomotor rhinitis, polypoid rhinosinusitis, cysts of maxillary sinus, nasal septal abscess, adenoiditis, chronic purulent maxillary sinusitis, chronic tonsillitis.

Pain level in patient was estimated by means of Visual Analogue Scale, Numeric Rating Scale, Verbal Lightening Scale. Mean values of pain level were calculated.

Results: There was no significant difference of pain level between groups 1 and 2 45.7% and 42.2% of patients accordingly had medium pain and 24.8% and 21.9% accordingly had severe pain. One day after operation, 48.6% and 45.3% of patients had no pain in group 1 and 2 accordingly and 37.1% and 35.9% had mild pain. 3 days after operation, 79% of patients had no pain and 20% had mild pain in group 1. No pain was in 70.3% and mild pain was in 26.6% of group 2 patients.

Conclusions: Understanding of pain level distribution of patients with different ENT disorders assists in administration of adequate pain relief and prevents development of chronic pain.
Potential involvement of matrix metalloproteinases in the pathogenesis of nasal polyposis

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Background: Matrix metalloproteinases (MMPs) are a family of zinc and calcium-dependent endopeptidases with respective endogenous inhibitors called tissue inhibitors of matrix metalloproteinases (TIMPs). MMPs are key enzymes responsible for extracellular matrix degradation and homeostasis. The loss of balance between MMPs and TIMPs may contribute to the progressive histological changes of tissue remodeling that is seen in upper and lower airway disease, such as asthma and nasal polyposis.

Aim: To determine, with the use of real-time reverse transcription-polymerase chain reaction (RT-PCR), variations in expression of different MMPs and TIMPs in patients with nasal polyposis.

Methods: Nasal samples from a total of 12 patients with nasal polyposis and 14 control subjects were studied. With the use of RT-PCR, transcript levels of the following peptides were assessed: MMP-2, MMP-7, MMP-9, MMP-14, TIMP-1 and TIMP-2.

Results: Increased levels of MMP-7 and MMP-9 were found in cases with nasal polyposis. Increased levels of TIMP-1 and decreased levels of TIMP-2 were also found in the nasal polyposis group.

Conclusion: RT-PCR provides solid evidence regarding the role of MMPs and TIMPs in the pathophysiology of nasal polyps. Further studies using larger numbers of cases are required in order to confirm the results and investigate potential therapeutic implications.

Methods. NOS2 genotyping was carried out using PCR amplification of relevant gene fragment was followed by restriction enzyme digestion. Detection of the variant alleles was determined through analysis of resulting restriction fragment length polymorphism (RFLP) followed by gel electrophoresis.

Results. Molecular analysis revealed an increased frequency of NOS2 variant allele in the study group compared to the control group (p

PM67 // MISCELLANEOUS // Basic research

Complications of tracheotomy-recent experiences

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Surgical tracheotomy is one of the oldest surgical procedures. There are groups of indications for performing this procedure such as mechanical obstruction of upper airway, protection of tracheobronchial tree in patients at risk of aspiration, respiratory failure, retention of bronchial secretions and elective tracheotomy during major head and neck surgery.

Retrospective study was done on patients with performed surgical tracheotomy during 5-year period (from January 1st 2007 to December 31st 2011). Medical records of 1109 patients, treated in Clinical centre of Serbia in Belgrade were reviewed. Age, gender, indications for tracheotomy, comorbidity of the patients, and existence of complications was noted. Patients were mostly male (88.31%), of average 58.6 years of age. In most of the patients tracheotomy was done due to mechanical obstruction of upper airway (77.45%). Complications during surgical procedure happened in 1.5% of the cases, early postoperative complications in 5.1% and late postoperative complications in 6.5% cases. Important risk factors for complications were age of the patient and accompanying nonsurgical and neurological diseases.

Surgical tracheotomy is still acceptable method for securing the airway in patients, with small number of complications, and it demands education of broad specter of physicians who can perform it safely in all levels of health care.

PM70 // MISCELLANEOUS // Miscellaneous

Retropharyngeal abscess evaluation and management: Series of three cases

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Retropharyngeal abscess, once almost exclusively a disease of children, is observed with increasing frequency in adults and it is usually caused by local trauma or odontogenic infection. Retropharyngeal abscess occurs less commonly today than in the past because of the widespread use of antibiotics for suppurative upper respiratory infections. It is a diagnostic challenge because of its infrequent occurrence and variable presentation. In the paper we present three series of three cases of retropharyngeal abscesses in adult male patients as a result of an uncontrolled infection of the upper respiratory tract. After thorough clinical and radiological evaluation (MSCT) patients have undergone intravenous broad-spectrum antibiotic treatment and surgical intervention and have fully recovered. Early recognition and aggressive management of retropharyngeal abscess are essential because it still carries significant morbidity and mortality.

PM68 // MISCELLANEOUS // Other

Genetic Polymorphism of NOS2 Gene in Nasal Polyposis in A Romanian population group

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Background. Polymorphisms for genes encoding chemo sensitive signalling proteins like NOS2, might contribute to the variability in individual susceptibility to nasal polyps. NO produced by the inducible NO synthase enzyme NOS2A is generated at high levels in certain types of inflammation, so that the role of NOS2 might be important in nasal polyposis etiopathogenesis. Objectives. This is a cross-sectional, randomized, case control study for the evaluation of the frequency of NOS2 polymorphism alleles among patients with nasal polyposis. Subjects. The study included 92 cases of nasal polyposis diagnosed patients (nasal endoscopy and CT scan examination), and 107 healthy unrelated controls.

Methods. NOS2 genotyping was carried out using PCR amplification of relevant gene fragment was followed by restriction enzyme digestion. Detection of the variant alleles was determined through analysis of resulting restriction fragment length polymorphism (RFLP) followed by gel electrophoresis.

Results. Molecular analysis revealed an increased frequency of NOS2 variant allele in the study group compared to the control group (p

PM71 // MISCELLANEOUS // Other

"BILATERAL PERITONSILLAR ABSCESS, A CASE REPORT"

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Professor Doutor Fernando da Fonseca Hospital

Peritonsillar abscesses are collections of purulent material that usually develop outside the tonsillar capsule, near the superior pole. Although unilateral peritonsillar abscess is a common complication of acute bacterial tonsillitis, bilateral peritonsillar abscesses are quite rare.

We report the case of a 33-year-old man, with a history of recurrent tonsillitis, presented in the emergency room with severe odynophagia, dysphagia, and fever. Examination of the oropharynx showed moderate trismus, sialorrhea, symmetrically enlarged and inflamed tonsils, and a bilaterally congested and bulging soft palate with a midline uvula.

A complete blood count showed leukocytosis (27.5×10³/µL) with neutrophilia (23.3×10³/µL) and an elevated C-reactive protein (14.9mg/dL).

Contrast-enhanced computed tomography showed bilateral peritonsillar abscesses measuring 2.4×2.7cm (left) and 1.7×2.6cm (right), causing significant airway obstruction.

In the emergency room the patient was given intravenous fluids and antibiotics. The patient underwent bilateral needle aspiration and drainage of the abscesses. A total of 8 mL of purulent material was obtained from the left side and 6 mL from the right side.

Complete clinical remission was rapidly achieved and the patient was discharged 72 hours later, on a 7 day course of oral antibiotics.

PM72 // MISCELLANEOUS // Other

"DEEP NECK INFECTIONS, EXPERIENCE OF A PORTUGUESE DEPARTMENT OF OTO RHINO LARYNGOLOGY"
Mafalda Trindade Soares, Carolina Durão, Pedro Henriques, Vâ-tor Gabão Veiga (Portugal)
Professor Doutor Fernando da Fonseca Hospital

Introduction: Neck infections are a real clinical challenge, remaining an important health problem. The complex anatomy of the neck sometimes makes diagnosis and exact location difficult.

Purpose: Statistical analysis of our experience with deep neck infections in the Otorhinolaryngology Department at Prof. Doutor Fernando Fonseca Hospital.

Material and methods: The authors retrospectively reviewed the clinical, imaging, and operative records of deep neck infection cases presented to their department, between 2001-2011. This review aims to determine the number of patients hospitalized with this diagnosis, the etiologies identified for each case, the associated risk factors, the treatment performed and the complications.

Results: In this period 80 patients were admitted with an average age of 44 years old. Odontogenic infections accounted for 83.3% of the detected cases followed by oropharyngeal infections (10%). The average hospital stay was 8.72 days. Computed tomography (CT) was performed in 58.75% of cases. 94% of patients were treated with double-acting antibiotics and 22.5% resorted to cervical drainage. The complication rate was 7.5%. The mortality rate was calculated at 1.25%.

Conclusion: Deep neck infections are still a frequent cause of hospitalization. It is essential to do a retrospective review of the cases, becoming aware and awake to this reality in order to better face it in the future.

Keywords // odontogenic infection, deep neck infection, cervical drainage

PM73 // MISCELLANEOUS // Miscellaneous
ENT manifestations of alkaptonuria
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Introduction
Alkaptonuria (AKU) is a rare inborn error of metabolism. It causes a variety of clinical signs and symptoms including ear, nose and throat (ENT) manifestations such as deposition of black pigmentation within connective tissue.

Aim
To describe the ENT manifestations of this rare condition as seen at the National Centre for AKU.

Method
Twenty patients attending for review were assessed within the ENT department as part of their overall AKU review. An ENT clinical examination was performed on all patients looking for signs of disease including cartilaginous changes to the nasal septum or pinna. Flexible nasendoscopy and audiological assessment including pure tone audiometry was also performed.

Results
Eleven patients were male and nine female with an average age of 24 years at diagnosis. 90% of patients had an ear, nose or throat sign. The majority of these signs were otological with discoloration of the pinna or ear wax. Other otological symptoms included a pigmented tympanic membrane. One patient had discoloration of their nasal septum and another had a dark discoloration seen in the pyriform fossa.

Discussion
This rare condition typically follows a progressive course. Early diagnosis may influence disease progression with advances in treatment. ENT manifestations are common and characteristic.

Conclusion
Clinicians should be aware of the characteristic signs and symptoms of this condition with referral to a clinician with a specialist interest advised.

Keywords // alkaptonuria; AKU; alkaptonuria; black wax; black pigmentation

PM74 // MISCELLANEOUS // Basic research
Morphology of Fetal Vocal Fold and Associated Structures.
PM78 // MISCELLANEOUS // Miscellaneous
Traumatic pseudoaneurysm of internal carotid artery, a rare cause of cranial nerve palsy
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Traumatic pseudoaneurysm of internal carotid artery (ICA) is a rare cause of cranial nerve palsy. We report a case of 29-year-old male who presented with hoarseness and dysphagia one week after a traffic accident. Physical exam showed deviation of the tongue when protruding, asymmetry of the soft palate, left cord palsy and XII cranial nerve palsy. Cranial base CT scan and Doppler ultrasound don’t show any pathological finding at the jugular foramen or neurovascular structure. Patient evolved with myosis and ptosis of the right eye. Cranial base CT was revised and detect asymmetry in soft tissue around jugular foramen. Angio-MRI showed a 20x10x19mm right ICA aneurysm collapsing and pushing posterolaterally the jugular vein, and a left ICA dissection. The arteriography confirmed the diagnosis and angioplasty to stent ICA bilaterally was done. Antiplatelet therapy with clopidogrel and acetylsalicylic acid was indicated. Three moths later the patient remains without myosis or ptosis, but paresia of the IX, X and XII cranial nerve was persisted. Carotid artery dissections should be screened in patients with appropriate mechanism of injury. This case report details the management of a patient of bilateral carotid artery dissection and a giant pseudoaneurysma successfully treated with bilateral stenting of both carotid arteries.

Keywords // pseudoaneurysm internal carotid artery cranial nerve palsy

PM79 // MISCELLANEOUS // Miscellaneous
Retropharyngeal Abscess and Sepsis Presenting As Parotid Swelling "An Unusual Case Report"
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A previously fit and well 44 year old gentleman was admitted with a 3 week history of parotid swelling and feeling generally unwell. Initial ear, nose and throat (ENT) examination was unremarkable except for unilateral diffuse parotid swelling. No immunocompromise or recent pharyngeal trauma was identified. Routine observations highlighted tachycardia and hypotension. Despite fluid resuscitation his hypotension failed to resolve and he was admitted to Intensive Care for inotropic support. He was commenced on broad spectrum antibiotics. No obvious cause of sepsis was identified. A computed tomography scan from neck to pelvis was performed to identify a source of sepsis and possible underlying immunocompromise. This highlighted a collection around the right tonsil, splenomegaly and widespread small volume lymphadenopathy. Flexible nasendoscopy showed a slight bulge on the right pharyngeal wall coated with dried secretions. Bedside ultrasound scan of the neck showed a 2-3cm abscess in the the right parotid extending to the parapharyngeal space.

A right tonsillectomy, drainage of retropharyngeal abscess and excision of an axillary lymph node for histology was performed. With continued intravenous antibiotics and supportive measures he recovered fully. Histology showed reactive lymphadenitis but no underlying immunocompromise. Retropharyngeal abscesses in adults are very rare. This is the first case report of a retropharyngeal abscess presenting as a parotid swelling.

Keywords // Retropharyngeal abscess, sepsis, hot tonsillectomy

PM80 // MISCELLANEOUS // Miscellaneous
COST-EFFECTIVENESS OF ENDOSCOPIC EVALUATION OF ADENOIDS VERSUS X-RAY EXPLORATION
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Several methods for objective evaluation of the volume of adenoids have been used (nasopharyngeal tact, lateral X-ray of nasopharynx, or fibrescope study). Nevertheless, the election of one of them depends in many circumstances on the custom, tradition or habit of every team. Furthermore, the most effective method for assessing the adenoid volume, has not been clearly established. This presentation is a study of cost-efficiency of fibrescope examination versus X-ray, according to public cost in our health system.

MATERIAL AND METHODS
Fiberscope: Routinely, we use a 3,2mm wide flexible fiberscope, for both children and adults. Taking into account the public cost of a single X-ray of nasopharynx (€6,43), the cost of a fibrescope (€5.489), the quantity of fibrescopies done with a single scope before it needs replacing (15.773), leads us to calculate that the cost of a single endoscopic exploration is €0,34.

To that difference in cost must be added other savings: -The exploration is performed at the same visit. That means that administrative costs are charged for further appointments The direct visualization of the nasopharynx offers a double diagnosis awareness: -Be sure that the mass of adenoids is undoubtate -Diagnose any hidden chonial atresia -Deny an adenoid hipterophy that could lead to an unnecessary surgery. CONCLUSIONS: Taking into account the above data, we consider fibrescope study of adenoids are clearly more cost-effective.

Keywords // ADENOIDS, COST-EFFECTIVENESS

PM81 // MISCELLANEOUS // Miscellaneous
Another neck pain: Stylohyoid Syndrome
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Stylohyoid or Eagle's Syndrome refers to a rare constellation of neuropsychic and vascular occlusive symptoms caused by pathologic elongation or angulations of the styloid process and styloid chain. Symptoms can include lateral neck and oropharyngeal pain in the area of the submandibular space and deep to the angle of the mandible exacerbated by chewing, swallowing speaking and head movement. There for it should be considered in the diagnostic approach of patients with cervical pain of obscure etiology. The authors report a case of a 28-year-old female who presented with a 2-year history of right cervical pain irradiating to ipsilateral shoulder associated with functional impairment. Physical examination revealed trismus and exacerbation of the pain when palpating the mastoid process. The cervical CT-scan showed elongated styloid processes bilaterally, with 37 mm on the left and 42 mm on the right side, compressing the distal branch of the internal carotid on cervical rotation. We used a combined approach, transoral and external, to the parapharyngeal space which permitted the identification and partial resection of the styloid process. One year post-operatively the patient's only complaint is an occasional 'first bite syndrome'.

Author's objective is to emphasize the fact that the elongated styloid process can cause severe cranio-facial or cervical pain as it is often forgotten leading patients to ceaselessly seek help in several medical specialties.

Keywords // Eagle's syndrome; Stylohyoid syndrome; carotiditis; neck pain

PM82 // MISCELLANEOUS // Miscellaneous
Ultrasonography performed by the ENT specialist in the management of patients with neck masses
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Carol Davila University of Medicine and Pharmacy

Background: Neck masses have etiologies ranging from inflammatory to malignant. From a psychological point of view the patients will chose the easiest coping mechanism of denial or associating the neck mass with specific infectious or traumatic events.

Objective: To use ultrasonography performed by the ENT specialist during the initial visit of the patient in the ENT department in order to improve the management and to increase the adhesion of the patient to the treatment.
Materials and methods: We present a series of 27 cases with neck masses that benefited from the use of ultrasonography performed first hand by the ENT specialist.

Results: We underline differences between the initial diagnoses by the ENT specialist and the diagnoses after the US exam. From these 27 cases 16 were of inflammatory etiology and thus the US exam increased the certainty of the nonsurgical treatment and the confidence of the patient in the treatment. In the other 11 cases the ENT specialist enforced with the use of US exam his opinion of a malignant lesion. Furthermore we present the pathology results for those cases that underwent surgery.

Conclusions: Ultrasonography is cost effective preventing the use of other imaging tools in the case of inflammatory etiology. In the case of a malignant or systemic lesion, the use of US exam prevented misdiagnosing the neck mass and the optimum management was instated earlier. Viewing the recorded US exam made the patients more compliant to the treatment.

Keywords // ultrasonography; neck masses; etiology; management; inflammatory lesions; malignant lesions; compliance to treatment

PM83 // MISCELLANEOUS // Miscellaneous
Reduction of Maxillary Sinus Volume by Radicular Odontogenic Cyst
Ivo Miguel Moura, Mafalda Trindade Soares; Sofia Decq Moto; Marta Cardoso; Filipe Freire; Rui Patarelle; GabaÉo Veiga (Portugal)
Hospital Professor Dr. Fernando Fonseca, EPE - Portugal

Odontogenic cysts develop from epithelium residues in the bone as a result of tooth development. Radicular cysts are formed by epithelium at the apex of a nonvital tooth stimulated by inflammation. They are rarely seen in the primary dentition and the incidence is greater in the third to sixth decades. These cysts can enlarge and encroach on adjacent structures such as the maxillary antrum. The authors report a clinical case of radicular cyst, that was growing progressively and lifted up the floor of the maxillary sinus, causing facial swelling.

Keywords // Maxillary; Sinus; Radicular; Odontogenic; Cyst; Facial; Swelling

PM84 // MISCELLANEOUS // Basic research
Clinically experimental verification if the use of the radiofrequency surgical method in otorhinolaryngology.
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Target of the study.
To compare the effectiveness of influence of the radiofrequency (4 mgG) and quantum molecular devices do the diseases of the upper respiratory tract in the clinical experimental conditions.

Materials and methods.
In conditions of the longtime experiment on the 10 male rabbits using the histological and cytological methods we detected the effectiveness of the healing process using the radiofrequency (CURISA®, 4 mgG, Zerts Medical) and quantum molecular devices.
In the ENT-clinic 58 patients between the age from 1 to 70 were surgically treated. The following surgical operations were performed by vasotomy 25, tonsillectomy 18, and tracheostomy 15. The objective control in before and after operation time was realized by cytological method as well as the method of laser fluorescent diagnostics of the tissue.

Results.
During our study we were able to detect the following results.
1. Coagulation necrosis zone after the affect of Curis was less than 20% compared with quantum molecular device.
2. Degenerative inflammatory phase is shorter by 1-2 days with the use of Curis.
3. Neutrophic count in the wound in 3 times less with the use of Curis.
4. The oxygen saturation of the tissue after the surgery did not reduce during use of Curis.
Conclusion.

During the time of conducted study it was detected the Curis is a far more effective device when used during surgical manipulations in comparison to quantum molecular device.

Keywords // Radiofrequency, quantum molecular, surgery.

PM85 // MISCELLANEOUS // Other
IS TRACHEOSTOMY A RISK FOR FOREIGN BODIES ASPIRATION?-case report
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Tracheobronchial foreign body aspiration is an extreme emergency , seen in all ages but especially in children and older patients with neurological disturbance of mechanism of deglutition or edentate.

Usually it requires urgent diagnosis and intervention. Presenting a tracheostomy is considered a protective method to prevent aspirations ,but a higher risk to aspirate direct thought the stoma ,water, dust, fly's or foreign bodies .

We report two cases of foreign bodies aspiration in laryngectomized patients the objects were inner part of tracheal tube .Even if the patients were capable to clean and change the tracheal tube ,they both experience a rupture of the tracheostomy tube, with aspiration. They presents to the ENT after 3 and 6 month without dyspnea , just minimum mucopurulent discharge and cough .In one case the tube was in the trachea superior to the carena and in the other case was in the left main bronchus

Using a rigid bronchoscopy we removed the foreign bodies place a new tube and start antibiotics ,steroids and mucolitics ,with no complication .Tracheobronchial foreign body is major emergency causing cough, dyspnea, hemoptisis and respiratory arrest but is sometimes asymptomatic. Clinical examinations ,history and radiology are enough for the diagnosis but in some cases just by bronchoscopy. A proper patient training for maintenance and cleaning of tracheostomy tube is crucial.

Keywords // Foreign body, laryngectomy , rigid bronchoscopy, tracheostomy canula

PM86 // MISCELLANEOUS // Other
Vascular benign nasopharyngeal tumour-case report-
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Faculty of Medicine and Pharmacy Oradea

Vascular benign nasopharyngeal tumour-case report-
Maria Domuta, Emil Marginean
Faculty of Medicine and Pharmacy Oradea

Introduction: Almost all nasopharyngeal benign tumours derive from conjunctive tissue, rarely from epithelial tissue and extremely rare are teratomas.

Material and method: We are presenting a case of venous hemangioma with bony metaplasia,histopathological type rarely found in nasopharynx.

Results and discussions: We performed the excision of the pediculate nasopharyngeal tumour trough endooral approach, the histo-pathological result being a surprise for us.

Conclusions: The diagnosis of a vascular benign tumour as venous hemangioma with bony central metaplasia was made histologically on excision of the tumour.The surgical treatment was performed with good results.

Key words: rare tumour, nasopharynx, vascular benign tumour.

PM87 // MISCELLANEOUS // Miscellaneous
RELAPSING POLYCHONDITIS PRESENTING AS A RECURRENT AURICULAR PERICHONDRITIS
Dr Laza Cristina, Dr Claudia Mihalov (Romania)
Relapsing polychondritis is a rare progressive disease with autoimmunity against type II collagen -- recurrent inflammation and destruction of all types of cartilages - elastic - ears and nose, hyaline of peripheral joints, the fibrocartilage at the axial sites, tracheobronchial tree with progressive disfigurement **saddle nose , cauliflower ears, stenosis of the trachea. Also can involve other proteoglycan-rich structures- eyes, heart, blood vessels, lesions of internal organs, inner ear with cochlear and vestibular dysfunction .

We present a case of RP in a middle age man , undiagnosed for six months with bilateral polychondritis of auricles rebel to usual treatment. Patient presents with swelling and redness of both ears without history of trauma, hearing loss, tinnitus, vertigo, and otorrhea and watering eyes, pain and swelling of joints. History revealed episodes of redness and swelling of both ear, irritative cough and dysphonia, fever and chills . Ophthalmological examination revealed conjunctivitis. Review of symptoms and erythrocyte sedimentation and CRP rate significantly very high elevated force us to think at a possible polychondritis and transfer the patient to the Rheumatology after a previous cartilage biopsy. The diagnosis supposition of RP was confirm and started on Medrol so he improved gradually clinically and, his erythrocyte sedimentation and PCR rate slowly normalized and now is on permanent follow up.

Keywords // polychondritis, perichondritis, autoimmunity diseases, steroids

PM88 // MISCELLANEOUS // Miscellaneous
Improved retraction for tracheostomy using elasticated retractors: comparing surgical exposure in cadaveric models.
Peter Steele, John Curran Rodney Mountain (United Kingdom)
University of Dundee

Introduction:
Tracheostomy is a commonly performed procedure that requires good surgical exposure to complete safely. We have developed a method of using elasticated stays in a sequential manner to provide retraction for tracheostomy. In this study we attempt to quantify the improvements we have found in practice when using this method.

Methods:
To compare surgical exposure created by elasticated retractors and traditional retractors (Czerny's and Langenbeck's) we created tracheostomy wounds in two cadaveric models to the point at which the trachea was exposed. Once the retractors were applied to these wounds dental alginate was poured into these wounds to create 3D moulds of these wounds.

Results:
Molds taken from wounds with elasticated retractors applied were significantly wider, shallower and of smaller volume than those taken when using both langenbecks and Czerny traditional retractors.

Conclusions:
In using elasticated retraction deeper structures are laterally retracted in a circumferential manner, elevated and everted towards the surgeon's view thereby avoiding having to operate in a deeper, narrowing wound. We feel this improves the safety of performing tracheostomies.

Keywords // Tracheostomy Retraction Elasticated

PM89 // MISCELLANEOUS // Miscellaneous
Retraction in head and neck surgery: The use of elasticated hooked retractors
Peter Steele, John Curran Rodney Mountain (United Kingdom)
University of Dundee

Introduction:
Retraction is an integral part of head and neck surgery. Traditionally an assistant utilising metallic retractors has been used to create the necessary surgical exposure for safe neck surgery to take place. Metallic retractors are bulky, can only be used to provide retraction in two directions and often interfere with surgical ergonomics. The quality of retraction provided is also dependent on the assistant's experience. We have developed the use of elasticated retractors as both an adjunct to and an alternative to traditional retraction for a number of head and neck procedures.

Method:
We have developed sequential methods of deploying elasticated, hooked retractors to assist in Tracheostomy, lymph node biopsy, parotidectomy and thyroglossal/branchial duct excisions. The steps at which the retractors are deployed were recorded as digital images in order to produce operative guides for the individual head and neck procedures.

Results:
Using elasticated retractors is a useful adjunct to traditional retraction and in some cases can be used as an alternative to a surgical assistant.

Discussion:
There are several advantages to this form of retraction. It allows the operator to have several points of retraction as opposed to just two with traditional retractors. In applying elasticated retractors to deeper structures the deep fascia and muscle is elevated towards the surgeon's view avoiding having to operate in a deeper, narrowing wound.

Keywords // Retraction Elasticated

PM90 // MISCELLANEOUS // Other
Ankylosing spondylitis and hearing loss.
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General Hospital of Athens "G. Gennimatas"

Ankylosing spondylitis (AS) is a chronic multisystem inflammatory disease of the axial skeleton. The diagnosis of AS is generally made by combining clinical criteria of inflammatory back pain and enthesitis or arthritis with radiological findings. It is well documented that AS can cause conductive hearing loss. This is believed to be related to an inflammatory involvement of the ossicular joints due to primary AS.

Four patients with AS attended our Outpatient Clinics for follow-up during the last years. All of them had bilateral conductive hearing loss. Hearing impairment had occurred in the previous three years. Bilateral middle ear tomography showed increased opacity and thickness of the ossicular joints in all patients. We also present a case of 60 year-old male with history of AS and rapidly progressive, bilateral fluctuating sensorineural hearing loss. The contours of the audiogram showed a drop in the low frequencies. Magnetic resonance imaging of the posterior fossa was normal. The patient had stopped any pharmaceutical therapy for AS 5 years ago. Hearing was improved by use of treatment with intravenous steroids.

We hypothesise that AS can impair the inner ear and cause immune-mediated sensorineural hearing loss.

Keywords // sensorineural hearing loss; conductive hearing loss; ankylosing spondylitis

PM91 // MISCELLANEOUS // Other
Is the adjustable balloon system for weight loss really safe?
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Lanarkshire NHS Trust

Objective:
We report a unique complication arising from the use of SpatzTM Adjustable Balloon System for temporary use in weight loss and to briefly review the literature on bariatric surgery.

Method:
A case report on the safe and successful management of a potential airway compromise and brief literature review of using Spatz Adjustable balloon system along with other options in bariatric surgery.

Case Report:
A 56 year old lady was transferred from a private hospital where she underwent insertion of the Spatz Adjustable balloon system for temporary weight reduction. During the procedure the gastric balloon was stuck in the lower part of the esophagus with the removal clasp trapped in the stomach, the pusher tube was curled around the larynx, while the inflation tube was hanging outside the oral cavity. The patient safely underwent a rigid esophagoscopy with removal of the balloon system. A post operative gastric endoscopy was found to be
normal. To our knowledge, this complication has not been reported in the literature before, however, lower esophagus obstruction without the larynx being involved has been acknowledged by the manufactures themselves.

Conclusion: This case highlights the potential risk of the gastric balloon system being stuck in the esophagus with the potential of causing airway compromise with their deliver system catheter. Both the gastroenterologist and ENT surgeons would be aware of this complication which requires prompt surgical intervention.

Keywords: // adjustable balloon, weight loss

PM92 // MISCELLANEOUS // Other
The Effectiveness Of Vestibular Exercise In Acute Vertigo
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Vertigo is a common symptom and it affects many social activities. The prospective study conducted from January 2010 to May 2012 to determine the effectiveness of vestibular exercise in patients with acute vertigo attack. A total of 45 patients who had acute attacks of vertigo were enrolled who were divided into study group (SG) and 22 in control group (CG). All patients were given tablet Betahistine 24mg twice daily as basic medical treatment and tablet Stemetil 5mg as a rescue medicine to be used when necessary. Those in SG also received vestibular exercise. Assessment was done using validated questionnaires, neuro-otology tests and individual diaries. There were total of 22 females (48.8%) and 23 (51.1%) males involved. Intragroup comparison of intensity of symptoms showed a significant improvement from baseline, to 3-month and 6-month visit in with p<0.001. The SG also recovered faster and used less medication. Interestingly, 30.4% patients in SG were asymptomatic as early as first to third week after intervention. The number of rescue medications required in each group lessen towards the end of study. By week 7, 56.3% of SG and 43.8% of CG needed no rescue medication. We concluded that the implementation of vestibular exercise is effective in improving symptoms of acute vertigo and the effect was maintained at longer period.

Keywords: // vertigo, vestibular exercise, vestibular rehabilitation, vestibular hypofunction

PM93 // MISCELLANEOUS // Basic research
Anatomical Study of the Pigs Temporal Bone by microdissection
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Introduction: Nowadays there is a scarcity of temporal bones around the world. A variety of animal models are been investigated for otological surgery, in order to improve the surgeon skills. Aim: Initial study of the pigs temporal bone anatomy. Methods: dissection of five temporal bone of Sus scrofa pig obtained from UNIFESP - Surgical Skills Laboratory. Results: the appearance of the tympanic cavity is very similar in comparison with the human. However, the classical parameters found in humans, as temporal line and suprameatal spine cannot be found in pigs temporal bone. The pig temporal bone is not pneumatized. Discussion: when a external evaluation of the pig temporal bone is made, there is an impression that it is very different from human temporal bone. However when the tynpanic membrane and the middle ear are evaluated, there are a lot of similarities. The pig is part of the human food chain routinely, found in markets and butcher shop. Conclusion: the pig temporal bone can be used as a alternative for otological surgery training, specially comparing the middle ear.

Keywords: // temporal bone; pig; animal models; otological surgery

PO01 // OTOLOGY // Cochlear and middle ear implants
Age-Dependent Cost-Utility of Pediatric Cochlear Implantation
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Johns Hopkins University School of Medicine

Objective: Despite evidence on clinical benefits of early cochlear implantation (CI) in children with severe-to-profound sensorineural hearing loss (SNHL), little data are available on the societal benefits of CI across various ages of implantation—a variable with high prognostic value for clinical outcome. This study proposes a model for the timing of this intervention from a societal and economic perspective.

Design: Prospective, longitudinal assessment of health-utility, costs of care, and classroom placement outcomes in 175 children from 6 US centers, undergoing CI before 5 years of age with 6 years of follow-up.

Results: Children implanted at 36 months of age, respectively. Complication rates were not significantly different between the 3 groups. Mainstream classroom integration rate was significantly higher in the youngest group at 81% as compared to 57% and 63% for middle and older groups, respectively, (p<0.05). The length of time to integration was also shorter in the younger group.

Keywords: // cost-utility, comparative effectiveness, age of implantation, pediatric cochlear implantation, quality of life.

PO02 // OTOLOGY // Neuro-Otology and vestibular system
Depression, Anxiety and stress scale in patients with tinnitus and hearing loss
Mohammed A. Gomaa, Manal Abo elmarg, Mohammed M Elbadry (Egypte) Minia University

Objective:- The study proposed to evaluate co-morbid cognitive disorders that associated with tinnitus patients.

Patient and Methods:- The study was done on one hundred patients suffering from tinnitus associated with hearing loss. Age range from 20-60 years old, 60 females and 40 males. The patients subjected to full ear, nose and throat examination and audiological evaluation. Depression, Anxiety and stress scale(DASS) that developed by Lovibond and Levibond , to assess three self ** report scales designed to measure the negative emotional status of depression, anxiety and stress. All patients were evaluated by DASS.

Results:-

1- Depression:- males were affected more than females as 90% of males suffer from depression compared to 80% of females .All Patients over 60 years all were affected by depression. Our results showed that the duration of tinnitus seems correlating with the severity of depression.

2- Anxiety:- 90 % of males suffer from anxiety compared to 83.3% females. Age group 20 ** 29 years old suffer more than other age groups, duration of tinnitus seems not affecting the disease.

3- Stress:- females seems to be affected by the stress (76.7.5%) more than males(67.5%). Patients with age group 30-39 the most to suffer from the disease There is direct correlation between duration of tinnitus and severity of stress.

Conclusion:

Depression, Anxiety and stress should be taken in consideration in the treatment of patients suffer from tinnitus.

Keywords: // Depression, Anxiety, Stress and tinnitus

PO03 // OTOLOGY // Neuro-Otology and vestibular system
Early Stage of Meniere’s Disease: Vestibulometric Diagnostics and Treatment
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In 226 examined patients, who were suspected of developing Meniere’s disease, 38 were diagnosed with early stage of idiopathic endolymphatic hydrops. Two debut variants of this internal ear disease are revealed: classic (unilateral alteration with hearing fluctuation) and Lermoyez syndrome. To objectify the patients’ complaints on occasional vestibular disorders which are lasting from 10 seconds (in case of positional vertigo) to 7 hours (in the event of rotatory vertigo) we assess the results of eye-movement reactions with the help of Frenzel glasses and computer electrooculography technology. On the one hand we rule out the signs of central vestibular dysfunction (voluntary saccades dysmetry, frank bilateral smooth pursuit impairments, tracing and rhythm disturbances of asymmetric optokinetic nystagmus responses, absence of fixation suppression of caloric nystagmus). On the other hand our goal is to detect symptoms which are typical for alterations that happen peripherally to vestibular nuclei (horizontal spontaneous nystagmus without visual fixation,
decreased caloric excitability on affected side). In the active phase of Meniere’s disease patients underwent nosotrop therapy (rehabilitation exercises, Betasec taking in complex with glucocorticid, diuretic and tranquilizer). Beneficial effect of this management consists in decrease of intensity and frequency of vertigo attacks, hearing preservation and altered ear tinnitus suppression.

Keywords: Meniere’s disease, Frenzel glasses, computer electrooculography, spontaneous nystagmus, caloric excitability, nosotrop therapy

PO05 // OTOLOGY // Audiology
CORRELATION BETWEEN CHIRP-ABR AND VRA THRESHOLDS IN HEARING IMPAIRMENT CHILDREN AND THEM WITH HEARING AIDS
Zheng-min Xu, MD, Ph.D, Wen-xia Chen, MD (Chine)
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To investigate the correlation between chirp-ABR and VRA thresholds in order to find out if it is possible to be used in diagnosis and fitting hearing aid for young children.METHODS: 32 infants withthearing losses were studied at our University. They were divided into two groups. 20 babies in group I were measured by chirp-ABR(including low-chirp ABR=0.1-0.85kHz and upper-chirp ABR=1-10kHz and VRA(0.25, 0.5, 1, 2 and 4kHz). In group II, the VRA and chirp ABR thresholds were obtained from 12 hearing impairment babies without and with hearing aids. The chirp-ABR thresholds(L-chirp and U-chirp stimulus) were compared to the VRA thresholds(0.25-0.5kHz and 1-4kHz) frequency bands using statistical Pearson values. RESULTS: The Pearson correlation coefficients were 0.96, and 0.97, respectively, which got from the data between the L-chirp ABR thresholds and the average VRA thresholds of 0.25°-0.5 kHz, and the U-chirp ABR thresholds and the average VRA thresholds of 1-4kHz in group I. Our data showed that the data between the chirp-ABR thresholds and VRA thresholds were 0.95 and 0.98 at frequency bands(L-chirp ABR vs the average VRA thresholds of 0.25°-0.5 kHz and U-chirp ABR vs the average VRA thresholds of 1-4kHz) in infants without and with hearing aids for group II. Conclusion: The chirp-ABR and the VRA were a highly correlated in young babies. The chirp-ABR technique could provide the multiple applications with regard to diagnosis and fitting hearing aid for young children.

Keywords // Chirp-ABR; young children with hearing loss; hearing aids

PO07 // OTOLOGY // Neuro-Otology and vestibular system
MANAGEMENT OF RESIDUAL AND IATROGENIC DIZZINESS IN AUDITORY IMPLANTS AND SKULL BASE SURGERY
Marco Manddoi, Franco Trabalzini (Italie)
University of Siena

The course addresses the issues of prediction, diagnosis and management of residual dizziness in auditory implants and skull base surgery. It is well known that patients following vestibular schwannoma surgery may complain of some kind of residual balance dysfunction following surgery. Another interesting data is represented by the significant percentage of subjects who performed a cochlear implant develop after surgery a vestibular deficit on the same side of the intervention.

A practical approach that starts even before surgery with a complete oto-neurological bedside examination, vestibular laboratory tests (Calorics, electronystagmography, videoelectronystagmography, vestibular evoked myogenic potentials, computerized dynamic posturography) and quality of life questionnaires will be described.

The course will focus on indications and surgical implications derived from pre-operative examination, counseling of patients prior to surgery, mechanisms of vestibular compensation and rehabilitation strategies tailored to the patient need and available facilities.

Keywords // Residual dizziness, auditory implant

PO08 // OTOLOGY // Cochlear and middle ear implants
Family Candidacy for Cochlear Implant
Omar Alsharif, Ahmed J Jamal (Jordanie)
1- Speak Center

Objective:

Family members play an important role in the success or failure of cochlear implanted children. This is emphasized in the role of the family in the process of cochlear implant children learning and interaction in their environment. Before implantation we need to ensure the role of the family in the belief that the child can overcome his deafness with their help, that the family understand all about cochlear implant and their readiness to be involved actively in the hearing and speech rehabilitation process.

This paper will present our views and experience on role of the family in:

1. Understanding the ordeal of deafness and the function of Cochlear implant
2. Understanding the importance of the rehabilitation and their role in this process
3. Motivating the child to interact with everybody around him
4. Helping the child to express himself freely and involve him in all family interactions.
5. Being more supportive to the child in his success as well as in failures.

Conclusion:

Surgery is not the only issue in the Cochlear implantation to restore hearing to the deaf. Attention to patient selection details and his/her family surroundings play major role in the success of our task to restore hearing. Family readiness and understanding of cochlear implantation function is the hidden factors behind a lot of problem and failures.

Keywords // Candidacy

PO09 // OTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Treatment modality: a powerful predictor of continued tobacco use after treatment in patients with laryngeal cancer
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Introduction

Patients with laryngeal cancer who continue to smoke after treatment are at an elevated risk of mortality and morbidity. This study aimed to identify factors associated with continued tobacco use following treatment in patients with laryngeal cancer, in order to better target smoking cessation programs.

Methods

A smoking survey was sent to 112 patients who were diagnosed with laryngeal cancer between 2006 and 2011 at Brighton and Sussex University Hospitals. Patient demographics, tumor and treatment-related variables, comorbidity, and socioeconomic status were obtained from the medical records.

Results

81% of eligible patients responded to the survey (n=91). 22% of the patient cohort reported continued tobacco use after treatment. Treatment modality was found to be a predictor of post-therapeutic smoking (IHA2 = 17.7; p < 0.0001): patients were almost five times more likely to continue to smoke after treatment if they had received transoral laser microsurgery, the least invasive form of treatment (OR: 4.9, p = 0.01), compared to patients who received either radiotherapy or chemoradiotherapy Â± laryngectomy.

Conclusions: The findings of this study provide a rationale to offer smoking cessation interventions to all patients undergoing transoral laser microsurgery.

Keywords // Laryngeal neoplasm, smoking, transoral laser microsurgery

PO10 // OTOLOGY // Otology and facial nerve
Schwann-like cells associated with polyglycolic acid conduit and autologous grafting improve regeneration of the facial nerve
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Introduction: Post-traumatic peripheral facial palsy may have serious clinical consequences. Different experimental approaches try to improve the

Keywords // Otology, nerve reconstruction, facial palsy, animal model, polyglycolic acid
regeneration of injured facial nerve. In this study, we employed autologous nerve interposition associated with polyglycolic acid tube filled with bone marrow mesenchymal stem cells (BMSC), aiming at the regeneration of the rat facial nerve. Methods: Rats submitted to neurotmesis of the mandibular branch of the facial nerve have undergone surgical repair by nerve autografting contained in a polyglycolic acid conduit, associated or not with BMSC undifferentiated or treated in vitro for Schwann-like cell differentiation. Electromyographic and histological analyses were made. Results: Six weeks after surgery, animals from either cell-containing group had mean CMAP amplitudes significantly higher than the ones from control groups.Schwann-like cell group had the highest mean axonal diameter in distal segments in regard to other study groups. Conclusions: Schwann-like cells associated with polyglycolic acid conduit-contained nerve grafting showed more beneficial effects on functional and histological regeneration of the injured facial nerve than the others groups, followed by undifferentiated cells group.

Keywords // facial nerve; nerve regeneration; stem cells; Schwann cells; autograft; nerve repair; neuroconduit; animal models; cell therapy; cell culture; surgery; in vivo; biodegradable polymers

PO101 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Infratemporal fossa metastasis as the first manifestation of recurrence of breast cancer: a case report.
Ahumada F., Villacampa JM, Sanchez A, Campos JM, Hernandez MJ, Diaz G, Gonzalez F, Santillán J, Cenjar C (Spain)
FundacióInimédezDáaz

Metastatic spread from non-head and neck tumours to the infratemporal fossa region is rare. We present the importance of suspecting metastases in patients with a previous history of malignancy. Therefore, thorough history and clinical evaluation is mandatory in any known/treated case of cancer.

Keywords // Infratemporal fossa, breast cancer.

PO102 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
REDDUCING THE WAITING TIME FOR SURGICAL TRACHEOSTOMIES
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Department of Otolaryngology, Head And Neck Surgery, University Hospital Of Wales, United Kingdom

Surgical tracheostomy is one of the commonest operations undertaken on intensive therapy unit (ITU) patients. This study assesses waiting times for surgical tracheostomy, the reasons for delay and a clinical intervention to improve the process. A two cycle audit was undertaken. The first cycle retrospectively evaluated surgical tracheostomies from August 2009-August 2010. An intervention of a guidance poster for clinicians booking the procedure was created. The audit loop was closed with prospective analysis from September 2010-December 2010. Results: a total of 120 surgical tracheostomies were performed. Male: Female 72:48, median age 63 years. There were 56 cases from general ITU, 29 from Cardiac ITU, 19 from Paediatric ITU, 5 emergency admissions and 11 ward referrals. The mean waiting time for surgical tracheostomy was 0.89 +/-0.14 days in the first audit cycle in comparison to 0.71 +/-0.16 days post-intervention (p=0.03). No statistical difference was seen between waiting times for different ITU departments (p=0.52). The cancellation rate in the first cycle was 17% in comparison to 10% post-intervention (p=0.34). Of 19 patients cancelled only 1 was due to “no surgeon available” (Chi-Squared p=0.37). The waiting time for surgical tracheostomy seems reasonable. No difference is seen in waiting times between different ITUs. Cancellations are unlikely to be due to lack of an ENT Surgeon. The intervention of a guidance poster has reduced waiting times for surgical tracheostomy.

Keywords // Surgical tracheostomy, Waiting time, Intensive therapy unit

PO103 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Intraoperative facial nerve monitoring for parotid gland surgery
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Clinic of Head and Neck Surgery and Laryngological Oncology Greater Poland Cancer Centre

Introduction: The route of the facial nerve in its extracranial part determines the technique of parotid gland surgery. Permanent facial nerve paralysis after parotidectomy is the most devastating complication for the patient and surgeon. Facial nerve monitoring by observing or palpating the face during the surgery is a long-standing practice. Aim of the study: Evaluation of the effectiveness of intraoperative facial nerve monitoring and risk factors of facial nerve paralysis for parotid gland surgery.

Material and methods: 256 patients operated on due to parotid gland tumor in the Clinic of Head and Neck Surgery and Laryngological Oncology of the Greater Poland Cancer Center in 2007-2011. All the patients had continuous facial nerve monitoring during the operation. Facial nerve function after surgery was assessed according to the House-Brackmann grading system. The incidence of facial nerve paralysis was analyzed according to selected clinical and morphological features.

Results: In the study group was 256 patients who underwent 279 operations within the parotid gland. 64 (22.9%) patients presented facial nerve dysfunction after surgery. 41 (14.7%) patients had temporary paralysis with complete recovery in 6 weeks. 23 (8.2%) patients had permanent paralysis six months following surgery. Statistically significant relationship between the incidence of facial nerve paralysis and tumor size, type of operation, number of operations, histological type.

PO104 // OTOTOLOGY // Neuro-Otology and vestibular system
Unilateral vestibular lesion presenting with irritative nystagmus
Tiago Costa, Pedro Angelo, Eduardo Ferreiro, Luís Antunes, Leonel Luis (Portugal)
Pulido Valente Hospital, North Lisbon Hospital Center

Background: Irritative nystagmus is a rare physical finding, presenting in the first stages of an acute vestibular lesion. Methods: Case Report.
Case report: We report a case of a 31 years old woman, 21 weeks pregnant, that presented in the emergency room with spontaneous rotatory vertigo, aural fullness, tinnitus, nausea and vomiting with 2 hours of evolution. The oto neurological examination revealed a spontaneous right horizontal-clockwise torsional nystagmus, a deviation of the subjective vertical to the left, a rotation to the left in the Fukuda stepping test, and a positive Head Impulse Test (HIT) to the right. The video HIT (vHIT) further revealed a defective slow phase during right impulses with overt saccades. Both the ocular, as well as the cervical vestibular evoked myogenic potentials, were pathologically asymmetrical to the right. MRI, electrocochleography, auditory brain responses and audiogram were unremarkable. She was started on metilprednisolone 1mg/Kg id with a 3-day progressive titration and a vestibular reeducation program.

The nystagmus did not convert into the paretic type and remained irritative until resolution. vHIT and VEMPs normalized after 3 weeks. Conclusions: To the best of our knowledge this is the first vHIT and VEMP report on a patient presenting with irritative nystagmus.

Keywords // Irritative Nystagmus, Vestibular lesion, vHIT, VEMP

PO105 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
On-site cytotechnician evaluation of adequacy of fine-needle aspiration for cytology in a neck lump clinic: a retrospective observational study
Department of ENT, Torbay Hospital, Torquay, UK

Introduction: The gold standard for assessing neck lumps is a one-stop clinic with an on-site cytopathologist who can provide a FNA report immediately. This has considerable resource implications and is not available in all units. In our department, surgeons perform FNAs guided by palpation which are evaluated for specimen adequacy by an on-site cytotechnician(CT) who...
comments on the adequacy of the sample. This study evaluates the impact of the CT on the adequacy of neck lump FNAs.

Methods: Retrospective observational study of FNAs performed from June 2010 to February 2012. The FNAs performed at the neck lump clinic with on-site CT assessment of adequacy were considered as the test group, and all other neck lump FNAs from other sources without on-site CT assessment of adequacy were considered as the control group.

Results: 181 FNAs met the inclusion criteria for this study. 86 (48%) FNAs were analysed for adequacy by the on-site CT (test group) and the remaining 95 (52%) did not (control group). The results demonstrate FNA inadequacy with and without on-site CT assessment of 30.2% and 44.2% respectively. This is equivalent to an absolute risk reduction of an inadequate FNA of 14%, which equates to a "number needed to treat" (NNT) of 7.1, i.e. the CT needs to assess 7.1 FNAs to prevent 1 inadequate specimen.

Conclusion: In neck lump clinics where on-site cytopathology is not available, an on-site CT is a compromise measure which does not reduce the number of inadequate FNAs.

Keywords // Fine needle aspiration, cytotechnician, neck lump, cytopathologist

PO106 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

REDUCING THE WAITING TIME FOR SURGICAL TRACHEOSTOMIES

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Surgical tracheostomy is one of the commonest operations undertaken on intensive therapy unit (ITU) patients. This study assesses waiting times for surgical tracheostomy, the reasons for delay and a clinical intervention to improve these. A two cycle audit was undertaken. The first cycle retrospectively evaluated surgical tracheostomies from August 2009-August 2010. An intervention of a guidance poster for clinicians booking the procedure was created. The audit loop was closed with prospective analysis from September 2010-December 2010. Results: a total of 120 surgical tracheostomies were performed. Male: Female 72:48, median age 63 years. There were 56 cases from General ITU, 29 from Cardiac ITU, 19 from Paediatric ITU, 5 emergency. The results demonstrate a reduction in waiting times post-intervention (p=0.03). No statistical difference was seen between waiting times for different ITU departments (p=0.52). The cancellation rate in the first cycle was 17% in comparison to 10% post-intervention (p=0.34). 19 patients cancelled only 1 was due to "no surgeon available" (Chi-Squared p=0.37). The waiting time for surgical tracheostomy seems reasonable. No difference is seen in waiting times between different ITUs. Cancellations are unlikely to be due to lack of an ENT Surgeon. The intervention of a guidance poster has reduced waiting times for surgical tracheostomy.

Keywords // Surgical tracheostomy, Waiting time, Intensive therapy unit

PO107 // OTOTOLOGY // Audiology

Transtympanal Electrocochleography Obtained at High Stimulus Rates (CLAD) in Patients with Acoustic Tumor

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Problem address: A new strategy of auditory evoked responses recorded at high stimulation rates in patients with acoustic tumors (CPAT).

Methods: Patients with CPAT were tested using a strategy of evaluation of the auditory system using "Continuous Loop Averaging Deconvolution" technique (CLAD) (Delgado & Ozdamar, JASA 2004; Ozdamar & Bohorquez, JASA 2006). Ears were stimulated by click presented at rates ranging from 58/s to 780/s in CLAD strategy. Action potential (AP), summing potential (SP), SP/AP ratio and function of AP changes in relation to stimulus rate with "critical point" ("CP") of this reduction was analyzed. "CP" was defined as a stimulus rate at which fast AP reduction passes into slow reduction.

Results: Always AP was reduced with simultaneously maintained SP if stimulation rate was increasing. Various patterns of AP reduction in relation to stimulus rates were observed. In healthy subjects SP/AP ratio 85% reached at stimulus rate of 300/s and "CP" value equal to 625/s. In patients with acoustic tumor SP/AP ratio<85% reached at stimulus rate of 100/s and "CP" at stimulus rate of 136/s in majority of cases. In some small tumors and relatively good preserved hearing TT-ECochG morphology was similar to healthy ears.

Conclusions: CLAD technique is a valuable tool for assessment of the auditory system that more precisely defines degree of damage of peripheral auditory system in retrocochlear hearing loss.

Keywords // acoustic tumor, ECochG, CLAD

PO108 // OTOTOLOGY // Otoneurosurgery and lateral skull base

Vestibular compensation following retrosigmoid vestibular schwannoma surgery

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Balance problems following vestibular schwannoma (VS) surgery are most apparent in the acute stage and usually improve over time. Persisting symptoms are related to significant morbidity. 89 patients undergoing unilateral VS resection via a retrosigmoid approach during 2008-2010 were prospectively analyzed. Persistent vertigo or spontaneous nystagmus and deviation of subjective visual vertical were classified as non-compensated vestibular pathology. We performed multivariate static analysis (Anova) of patient (age, gender), tumor (size-international classification), preoperative vestibular pathology (ipsilateral/contralateral peripheral, central) and intraoperative (conventional or minimally-invasive approach, tumor adherence, consistency, bleeding, cystic, origo, cerebellar injury) factors. To assess impact of vestibular symptoms on quality of life we employed DHI and SF36 questionnaires.

12 of 89 patients undergoing VS surgery suffered from disordered vestibular compensation. Among the factors analyzed the advanced age seems to be most prominent negative factor. The factor of vestibular compensation (p=0.006) (SSA<10 vs. 44±13 years). Dysbalance was more prevalent in the group of uncompensated lesion (p=4 x 10-7). Surprisingly poor compensation did not correlate with worse DHI and SF36 scoring.

Identification of factors that may contribute to a poor vestibular compensation is crucial for both VS management planning and proper postoperative vestibular rehabilitation.

Keywords // vestibular schwannoma, acoustic neuroma, vertigo, vestibular dysfunction

PO109 // OTOTOLOGY // Otology and facial nerve

Masked mastoiditis revealed by complications

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Masked mastoiditis is characterized histopathologically by the presence of osteitis, granulation tissue with an intact tympanic membrane. The aim of this study is to enhance the knowledge about the evolution possibilities of masked mastoiditis that might cause complications in special to small children. Seven cases (one adult and six children) with masked mastoiditis revealed by complications are reported. Of 7 cases, there were 3 cases with facial palsy and 4 with subperiosteal abscesses. Temporal bone CT-scan as well as miringocentesis was performed. Intravenous antibiotics and steroids were prescribed. The facial palsy had not been improved. Tympanomastoidectomy was performed in all patients, and tympanostomy tube insertion and facial nerve decompression in those with facial palsy.

During the surgery the granulation tissue that filled the mastoid cells including the antrum and lack of suppuration was observed. All patients recovered excellently postoperative including the nerve function in the three patients with facial palsy. Tympanic membrane appearance didn’t show the gravity of the pathology of the mastoid process. CT-scan was not able to offer specifically details to make the correct diagnose. Appropriate intravenous antibiotics and adequate surgeries, as soon as possible, were recommended.

Keywords // masked mastoiditis, complications

PO11 // OTOTOLOGY // Otology and facial nerve
There is no one ideal animal model to study the facial nerve regeneration. Several animals were studied, such as mice, pigs, rabbits among others, but all have advantages and disadvantages. Purpose: To establish a new experimental model for evaluation of facial nerve regeneration through the nerve conduction studies and histologic mandibular branch of the facial nerve of rats. Methods: We performed the nerve conduction studies in 44 mandibular branch of the facial nerve in Wistar rats and the qualitative and quantitative histological evaluation in 22 of these branches. The results were described and compared using the Wilcoxon test. Results: In the nerve conduction study, there was no significant difference (p

Keywords // Facial Nerve; Stem cells; Nerve Regeneration; Animals Model; Electromyography; Neural Conduction.

PO110 // OTOLOGY // Cochlear and middle ear implants
QUALITY OF LIFE OF CHILDREN WITH COCHLEAR IMPLANT IN SERBIA
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The goal: To determine how it can affect the relationship between the variables that determine the quality of life for children with cochlear implants built in order to improve their communication skills, educational opportunities and quality of life in general.

Methods: We used standardized tests the skills of listening, auditory performance, communication skills, and parental attitudes scale, which indicates how much influence a parent education to improve the living conditions of children with hearing impairments great.

Results: Controlling these variables was obtained that the cochlear implant is in direct proportion to the auditory performance and speech and communication skills, and inversely proportional to the level of education and quality of life.

The research showed a significant difference to the children implanted before the age of four years and those who have had implants for 3 years or more. It has been shown that children who have had damage before implanting over 110 dB, postoperative fulfill tasks in the range 80-104 Db.

Conclusion: It was concluded that the improvement of living conditions children with hearing impairment affects a large heavily attitudes of parents and the environment in which they live, and that their education has a significant impact on the quality of life of these children.

Keywords // Quality of life, Cochlear implant, Rehabilitation

PO111 // OTOLOGY // Neuro-Otology and vestibular system
Tinnitus and vertigo in public health.
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Hospital Mater Dei

In the Brazilian Constitution, health is considered a universal right and a duty of government. Everyone has the right to access health care and treatment. Unfortunately what we see is a great difficulty to fulfill what is in the Constitution due to high costs and lack of resources. There is a need to prioritize care, and service is often poor and incomplete.

Assessing the nosology prevalent in ENT public service we noticed a large number of patients with tinnitus and dizziness without accurate etiological diagnosis and treatment instituted. Consequently there is no problem solving in the care of these patientsand they always return. The ENT consultations lasting an average of 8 minutes, including history, physical examination, counseling and prescription are insufficient to clarify the cases.

We propose from these data to establish a clinic care neurotology based on:
- Pre-formatted questionnaires for the analysis of signs, symptoms and psychological impact of complaints.
- Protocol of complete physical.
- Provision of additional tests according to clinical suspicion.

- The provision of drug treatment, labyrinthic rehabilitation, and comprehensive advice.
- Medical consultation of at least 30 minutes.

Our results were more than 50% success rate in the third appointment. The treatment costs are much higher when there is no problem solving. There is no necessary relation between low cost and low quality of care.

Keywords // tinnitus, vertigo, public health

PO112 // OTOLOGY // Neuro-Otology and vestibular system
Otolith dysfunction in early stage of multiple sclerosis and clinically isolated syndrome
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Purpose
The aim of the study was to investigate vestibular evoked myogenic potentials (VEMP) in early stages of multiple sclerosis (MS) and in clinically isolated syndrome (CIS).

Background
VEMP is thought to be a marker of mainly otolith dysfunction. Vestibulo-cerebellar lesions are common in CIS and early MS.

Material and methods
Twenty MS outpatients were compared to 20 age-matched healthy volunteers. 75% of patients did not have any infratentorial lesion on MRI and clinical examination.

VEMPs were evoked by forehead taps with a triggered reflex hammer (tap-VEMP). Responses were registered over the sternocleidomastoid muscles (collic VEMP) and over the lower eyelid (ocular VEMP). Peak latencies and standardized amplitudes were measured

Results
Collic and ocular tap-VEMP latencies of the patients were significantly prolonged compared to healthy volunteers. The ocular n2p2 amplitude was reduced, while the standardized collic p13n23 amplitude was enhanced.

Conclusion
These findings suggest that VEMP is able to detect subclinical otolith dysfunction or lesions beneath detection threshold of MRI in patients with early MS and clinically isolated syndrome.

Keywords // VEMP, early MS, subclinical

PO113 // OTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Clinical analysis of extracranial head and neck schwannomas
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Kyushu University

Background:
Schwannoma is a benign neural sheath tumor. It occurs in overall body areas including the head and neck region. As a slowly-growing benign tumor, it has been reported to occur in the head and neck region in approximately 25-40% of total schwannoma cases. In treating schwannoma patients, it is critical to determine the origin of the tumor to preserve nerve function. In this clinical review, a series of extracranial head and neck schwannoma will be analysed.

Materials and Methods:
Between 2003 and 2010, 27 patients with extracranial head and neck schwannomas were operated. The data for the 27 patients, consisting of 14 males and 13 females, were analyzed. The subjects’ ages ranged from 21 to 80 years, with a median age of 51 years.

Results:
All of the tumor was resected through transcervical approach. The distribution of 27 nerve of origins was 10 vagus nerve, 5 sympathetic trunk, 5 cervical plexus, 3 brachial plexus, 2 hypoglossal nerve, 1 trigeminal nerve, 1 accessory nerve. Intracapsular removal of the tumor was performed 16 patients who had post-operative nerve palsy: 6 of them recovered from the palsy.
Conclusions: In cases of schwannoma arising in the head and neck region, surgical resection may cause fatal nerve damage unlike other tumors. Therefore, treatments assuring the preservation of neurological functions are needed. The decision of operation should be based on the balance between the risk and benefit of the surgery.

Keywords: head and neck, schwannoma

PO114 // OTOTOLOGY // Otology and facial nerve
Inadvertent application of cyanoacrylate glue to external auditory canal: our experience
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Introduction
A case series of three patients with cyanoacrylate glue (super-glue®*) in their external auditory canal (EAC) is reported. Conservative management has poor outcomes and surgery may be unavoidable. To our knowledge, iatrogenic application of super-glue® to the EAC has not been described previously.

Case presentations
Three patients have presented to our department with super-glue® at the EAC within a 10-year period. A 54-year-old male had iatrogenic application of super-glue® at the left EAC after a laceration to the left ear lobe. A 78-year-old male applied Super-glue® to his EAC after mistaking them for antibiotic topical drops he had been prescribed for otitis externa. A 25-year-old male had Super-glue poured into his EAC by his friends. All of them had the superglue removed under general anaesthesia.

Discussion
A review of the literature reveals only 10 such cases. Removal of superglue can be challenging for the clinician and an operation under general anaesthesia may be necessary. Conservative management includes the use of solvents such as acetone that may help dissolve the glue and aid removal. Removal should only be attempted with the use of a microscope and the patient should be warned of the risk of tympanic membrane perforation if superglue is adherent to the tympanic membrane.

Conclusion
Change of the legislation with regards to the size, shape and colour of the super-glue® containers would reduce the incidence of this preventable hazard.

Keywords: superglue, external auditory canal, legislation

PO115 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
THE STUDY OF CANTHARIDIN INDUCES ORAL SQUAMOUS CELL CARCINOMA APOPTOSIS VIA STROMAL CELL-DERIVED FACTOR-1Î± (SDF-1Î±) AND CXCR4 REGULATORY PATHWAY
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Purpose
The oral cavity is one of the most common locations of squamous cell carcinoma in head and neck region. Cantharidin is a natural toxin, which is produced by Chinese blister beetles and Spanish flies. The purposes of this study are: (1) to investigate cantharidin property of preventive or treatment effects in OSCC. (2) to clarify the precise and detail molecular mechanisms of cantharidin in OSCC.

Material and Methods
MTT assay was used in human tongue squamous carcinoma derived SAS cell line to assess cell viability, and possible lethal dose of cantharidin. Besides, mitochondrial transmembrane potential (MMP) analysis, western blot analysis. Quantitative real-time PCR, and associated DNA plasmid transfection were used to assess the definite molecular mechanism of cantharidin on OSCC cells line.

Results
Results showed that cantharidin significantly reduced cell viability in OSCC cells line, SAS cell. In mitochondrial pathway, cantharidin decreased mitochondrial transmembrane potential, increased cytosolic cytochrome c and Apaf-1 proteins expression. In ER-stress pathway, cantharidin enhanced phospho-eIF-2, CHOP, Grp78, Grp94 proteins expression, and decreased procaspase-12 protein expression.

Conclusions
This study indicated that cantharidin induced OSCC cell apoptosis though phospho-JNK regulated mitochondria and ER-stress pathway. The cantharidine may have a potential role in clinical therapy for OSCC.

Keywords: CANTHARIDIN, ORAL SQUAMOUS CELL CARCINOMA, CXCR4, SDF-1Î±

PO116 // OTOTOLOGY // Audiology
Sudden Deafness with the use of Anti-Thymocyte Globulin: Cause or Co-incidence?
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University Hospitals of Leicester

Anti-thymocyte Globulin (ATG) is used to treat antibody-mediated renal transplant rejection unresponsive to intravenous steroids. ATG contains antibodies against human T-cells and has numerous adverse drug reactions. Post-transplant immunosuppression has been linked with hearing loss and is not a new discovery. To date there is only one case report of hearing loss linked to ATG whereby transient sudden unilateral deafness occurred post-treatment.

We describe a case of a patient suffering from AMR who experienced sudden onset hearing loss in the right ear 90 minutes post-ATG infusion. An audiogram demonstrated 93dB loss in the right and 17dB loss in the left compared with a baseline audiogram. MRI brain revealed a small right-sided intra-cancicular vestibular schwannoma.

On scrutiny of pre-insult and post-insult audiograms, it is clear the hearing loss was bilateral. The schwannoma, whilst potentially contributing, could not account for this, furthermore there was a slight improvement of the hearing loss four months later. Timing of onset correlates closely with ATG use, strongly favouring a link.

It is important to not overlook hearing loss, which can have a profound and debilitating impact upon a patient’s life. It might be prudent to advise patient’s of the small risk when consenting and in a subset of patients with predisposing ear pathology it may be sensible to get a simple audiogram prior to treatment.

Keywords: sudden onset hearing loss, SNHL, vestibular schwannoma, ATG, immunosuppression

PO117 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
No longer rare? A case report of a neck abscess caused by Lactococcus lactis cremoris
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Introduction: Lactococcus lactis cremoris infection is rarely reported in humans. However, it is imperative that ENT professionals are aware of the Lactococcus lactis cremoris bacterium because it is present in unpasteurised dairy products, which are now common with the advent of organic farming. We report a case of a neck abscess caused by lactococcus lactis cremoris in an immunocompromised adult, which is believed to have been caused by consumption of unpasteurised cheese. Our report includes a discussion of the challenging diagnostic features and the subsequent treatment of this case.

Case report: A 66-year-old diabetic female patient was admitted with a right neck abscess. US scan revealed a necrotic abscess suspicious of malignancy and biopsy showed evidence of chronic inflammation. In order to isolate the primary source of malignancy, we performed MRI and PET scans but neither had conclusive results. Subsequently, we performed an incision and drainage of the mass in order to alleviate pressure symptoms. The ensuing histological examination revealed that
the mass was caused by lactococcus lactis cremoris. As such, the patient was treated with antibiotics and made a complete recovery.

Conclusions: To our knowledge this is the first report of a lactococcus lactis cremoris neck infection in adults in the UK. Atypical organisms should always be considered in the working diagnosis of an atypical neck abscess especially now with the increase in organic farming popularity.

Keywords // Lactococcus cremoris, abscess

PO118 // OTOLOGY // Audiology
Effect of long-term acoustic load on the functional state of auditory perception of young people.
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Urals State Medical Academy

According to the European Scientific Committee on Emerging Health Risks for 2011 the number of users of music players is between 50 and 100 million people. At present, many users prefer to use vacuum headphones that allow you to completely block out noisy surroundings.

The aim of the study was to investigate the analysis of the auditory function in young adults, who are used the audio player for a long time, the percentage of young people using this device and the configuration of the most used headphones.

Completed questionnaires and audiological examination 338 people aged 15 to 25 years. According to the questionnaire, of 338 people regularly listen to music using any type of recordings (audio players, stereos, personal computers, tablet, etc.) 98.33%, do not listen to music 1.47%. Always use headphones and listen to music very loudly - 35.5% use the player for listening to music for more than 60 minutes a day - 37.7%. Vacuum headphones using 65% of the respondents, 18.6% used overhead headphones.

At the age of 15-25 years, the rate of hearing range from 5-10 dB, the surveyed patients this option was 12.5 Â± 1.77 dB, and after 60 minutes listening to music at 95 dB hearing level fell to 23.5 Â± 1.62 dB.

Thus, the increased acoustic load of young people aged 15-25 years is a complaint of a violation hearing, and a significant proportion of respondents who underwent a full clinical and audiological research, had lower levels of hearing than they should be at their age.

Keywords // hearing loss, young adults, audio player

PO119 // OTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Minimal invasive laser-therapy for malignant melanoma of the vocal chords
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University of Szeged, Department of Oto-Rhino-Laryngology and Head and Neck Surgery

Primary laryngeal melanoma of the larynx is very rare, 1.2 % of all malignant melanomas. The symptoms cannot be differentiated from other malignant laryngeal diseases, thus the diagnosis of laryngeal melanoma is not on a clinical basis. Initially histological diagnosis can be confused with poorly differentiated squamous cell carcinoma, neuroendocrine carcinoma, or in our case with sarcomatoid carcinoma.

The diagnosis is based on the immunohistochemical examination, the presence of immunoreactivity of vimentin, of S-100, of HMB-45.

The traditional surgical therapy of malignant melanoma in the larynx is the radical surgical method, total laryngectomy combined with adjuvant radiotherapy, or chemotherapy.

In our presentation we would like to show the minimal invasive extended laser-chordectomy (V/a,c. European Laryngology Society 2000) as a surgical treatment option for malignant melanoma of the glottic region. It means a laryngeal function preserving surgical method for saving the quality of life of the patient.

Keywords // Primary laryngeal melanoma, Histological diagnosis, minimally invasive laser surgery

PO12 // OTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
A method for limiting Cervical Cellulitis
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le Centre Hospitalier Sud Francilien

Odontogenic infection considered one of the main causes of deep cervical infections which spreads to the mediastinum via the cervical fascial planes, leading to serious and potentially life threatening condition (Singlyal, 2007).

Since the Otorhinolaryngology and Maxillofacial are combined department in Sud Francilian Hospital, ille de France, France, we conducted a retrospective to identify which type of patients with odontogenic infections have more potential risks for deep cervical infections based on anatomical dental location implementing the FDI two digit notation system (FDI, 1971), the study covered all patients admitted in our department between 2010-2012 , parameters studies were, hospital stay and deep cervical infections, results revealed statistically significant relation between the lower jaw odontogenic infection and deep cervical infections and long hospital stay in comparing with upper jaw odontogenic infections. Based on obtained results, we designed a new algorithm with defined criteria of admission for high risk patients following the process flow mapping method.

Keywords // deep cervical infections, odontogenic infection, retrospective study

PO120 // OTOLOGY // Audiology
Sharpening the Unterberger Test: Improving the reliability of a routine clinical examination
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King’s College London

Background: The Unterberger Test is widely used to assess peripheral vestibular function. Previously published data in those with a unilateral peripheral vestibular deficit has suggested a sensitivity and specificity of 70% and 50% respectively. This study aimed to collect normal data and consider methods by which the test could be “sharpened” and its sensitivity and specificity improved.

Methods: We recruited 24 subjects, Those with an audiostevular or orthopaedic history were excluded. A pure tone audiogram confirmed hearing thresholds to be above 20dBHL. Each subject performed a standard Unterberger test (50 steps) in the following scenarios: on floor and foam, with and without ear defenders, with and without a metronome, in an anechoic and standard clinic room of similar proportions. The degree of rotation was recorded in each case.

Results: Results were analysed using the Wilcoxon signed-rank test. A significant difference in rotation was noted on foam in a standard versus an anechoic room. A trend towards increased rotation was also noted on foam versus standard flooring, and without and with ear defenders in a standard room. Conversely, decreased rotation was seen with the introduction of a sound localising source.

Conclusions: Our results suggest that a variety of factors influence the degree of rotation seen on Unterberger testing in normal subjects. We suggest these variables merit further evaluation to assess their role in sharpening this clinical examination

Keywords // Unterberger Test, Peripheral vestibular function, Unilateral peripheral vestibular deficit, Clinical examination, Reliability

PO121 // OTOLOGY // Otology and facial nerve
The recurrence rate of congenital cholesteatoma based on Potsic staging system
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Objectives: To investigate the recurrence rate of congenital cholesteatoma based on Potsic staging system using Kaplan-Meier survival analysis.

Materials: Fifty-eight congenital cholesteatomas operated on by a single surgeon between 1988 and 2012 were reviewed. The median age was 6.8 years (range 1 to 20 years) overall, 4.0 years (range 1 to 9 years) in Stage1, 3.3 years (range 1 to 4 years) in Stage 2, 7.3 years (range 3 to 20 years) in Stage 3, and 7.3
years (range 4 to 14 years). The median follow-up period was 4.4 years (range 0.5-16.2 years).

Results: According to Potsic staging system, 8 cases (14%) were included in Stage 1, 4 cases (7%) in Stage 2, 29 cases (50%) in Stage 3, and 17 cases (29%) in Stage 4. Cholesteatoma recidivism was observed in 8 cases (2 residual cholesteatomas and 6 recurrent cholesteatomas). Recurrent Cholesteatoma occurred in Stage 3 with mastoid disease such as secondary cholesterol granuloma and Stage4. Seven of 8 recurrences occurred within 5 years after surgery. The 5-year recurrence rate using Kaplan-Meier survival analysis was 0% in Stage 2 and 2, 14.4% in Stage 3, and 28.6% in Stage4.

Conclusions: Potsic staging system for congenital cholesteatoma well reflects the prognosis, as previously reported. It is very important to diagnose congenital cholesteatoma in early stage. Furthermore, we should take care of recurrent cholesteatoma after surgery for congenital cholesteatoma as for acquired cholesteatoma.

Keywords // congenital cholesteatoma, Potsic staging system, recurrence rate

PO122 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Parapharyngeal second branchial cyst: A case report
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Department of Otorhinolaryngology Head and Neck surgery University Hospital Beni messous

Objectives: We describe clinical presentation and radiological features of a parapharyngeal branchial cyst and we discuss the differential diagnoses and the surgical management of this tumors. We also review the literature on this subject.

Patient and Method:
We report a case of a 20-year-old man who presented with a 4 months history of dysphagia, rhinolalia and snoring.

Clinical examination revealed a cystic submucosal mass of the right posterolateral wall of the oropharynx extended to the submandibular region.

Radiological evaluation including CT scan and MRI showed a large cystic mass in the right retro and latero pharyngeal spaces, with lateral displacement of the external carotid artery.

Complete surgical resection was performed via transcervical approach without complications. Histopathological examination was consistent with a branchial cyst. No recurrence was observed after 3 years follow up.

Conclusion:
Branchial second cleft cysts are benign tumors rarely located in the parapharyngeal space (Bailey’s type IV).

Complete surgical resection via cervical approach is the treatment of choice that provides the most complete exposure and avoids recurrences.

Keywords // Parapharyngeal space, Branchial cyst, Transcervical approach

PO123 // OTOTOLOGY // Audiology

Reversible sensorineural hearing loss following treatment with clarithromycin
Vassiliki Florou, Panagiotis Kousoulis, Jiannis Hajioannou, Marios Fragos, Efstratios Moschovakis (Greece)
ENT Department of General Hospital of Nikaia, Piraeus, Greece

Objective: The aim of the presentation is to report a rare case of reversible sensorineural hearing loss, caused by Clarithromycin.

Case report: A 28 year old pregnant woman presented to the ENT department with unilateral profound (>90dB) sensorineural hearing loss. She had a history of multiple sclerosis in remission and was treated with oral Clarithromycin during the past 7 days for an upper respiratory tract infection. Neurologic examination and MRI imaging excluded the possibility of multiple sclerosis relapse. Hearing returned within normal limits two weeks after drug discontinuation and short-term treatment with low dose-steroids.

Discussion - Conclusion: Newer macrolides like clarithromycin are considered safer regarding ototoxic effects compared to older ones such as erythromycin. The present case is added to the very few reported cases of Clarithromycin ototoxicity. Clinicians should be aware of this rare complication and special attention should be paid in establishing a thorough otologic history prior to macrolide administration. Prompt discontinuation of the drug administration is expected to improve hearing.

Keywords // Chemically induced hearing loss, macrolides, erythromycin, clarithromycin, adverse effects, drug toxicity

PO124 // OTOTOLOGY // Otology and facial nerve

Diffusion-weighted/(DW)/Apparent Diffusion Coefficient (ADC) in differentiation cholesteatoma and abscess
Hiroko Monobe, Chikako Yamada, Katsumi Takizawa, Shintaro Baba (Japan)
Japanese Red Cross Hospital

Otitis media with discharge refractory to medical treatment is occasionally encountered even with broadly active antibiotics, and aural discharge can be caused by superinfected cholesteatoma. These changes may be difficult to detect on conventional imaging.

Currently, high-resolution computed tomography (CT) is widely used to evaluate cholesteatoma in the temporal bone, with magnetic resonance imaging (MRI) reserved for difficult cases such as detection of recurrence. MRI examination for evaluation of cholesteatoma should include T1 postgadolinium contrast and T2- and diffusion-weighted (DW)/apparent diffusion coefficient (ADC) sequences. In DWI/ADC sequences, cholesteatoma shows increased DW signal intensity similar to that in brain epidermal cysts, in the form of restricted diffusion, and abscess lesions also show increased signals, predominantly resulting from internal viscous fluid.

In this study, we evaluated DWI/ADC sequences in cases of cholesteatoma and abscess to determine whether the ADC pattern could differentiate between these two conditions.

The ADC pattern showed low signals in the cholesteatoma group and low-intermediate signals in the abscess group, depending on stage of infection.

When imaging the ear with MRI, there is no completely reliable way to differentiate between cholesteatoma and an abscess. Although CT and clinical information are prerequisites, DWI/ADC sequences can provide additional information.

Keywords // MRI, DWI, ADC, cholesteatoma, abscess

PO125 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Malignant nodular hidradenocarcinoma over the parotid gland “*” The importance of aggressive initial excision.
Panagiotis Kousoulis, Jiannis Hajioannou, Vassiliki Florou, Eleni Stavrianou, Efstratios Moschovakis (Greece)
General Hospital of Nikaia - Piraeus

Introduction
Nodular hidradenocarcinoma is a rare, aggressive skin tumor, arising from the sweat glands. The aim of the presentation is to report a case of tumor recurrence following an incomplete initial excision.

Case presentation
A 60 year old female patient presented with a left sided swelling over the parotid area together with isplalateral painless, firm and immobile level II and III lymphadenopathy. The patient reported that six months before, had undergone excision of a hidradenocarcinoma from the left parotid area skin. Fine needle aspiration of the mass showed metastatic carcinoma. Imaging of the Head and Neck showed infiltration of the left parotid gland and sternocleidomastoid muscle, together with ipsilateral level I-V lymphadenopathy.

The surgical treatment comprised of excision of the mass, superficial parotidectomy with preservation of the VII nerve, excision of the submandibular gland and modified radical neck dissection with preservation of the accessory nerve. Histology verified the recurrence of a nodular hidradenocarcinoma. The patient was referred for postoperative radiotherapy and is free of recurrence two years after the operation.

Conclusion
Nodular hidradenocarcinoma is characterized by a high potential for local recurrence, metastasis, and poor outcome. Aggressive surgical excision as the initial treatment is of utmost importance. Postoperative radiotherapy and close surveillance for recurrence can improve outcome.

Keywords // Hidradenocarcinoma, neck dissection, parotid gland
Carotid body paragangliomas are a rare neoplasm, although representing the majority of head and neck paragangliomas. The topic has generated much literature and controversy over the years, both in relation to its natural history, biologic behavior, diagnostic methods and therapeutic modalities. Despite technological advances its excision remains a challenge for even the most experienced surgeons. This work aims to present a case of carotid body paraganglioma emphasizing the clinical aspects, diagnosis and treatment, complementing it with a literature review.

Keywords // paraganglioma, carotid body tumor

Objective tinnitus by dural arteriovenous fistula
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Braga’s Hospital

Tinnitus is a common problem, affecting about 1 in 5 people. The sound can be pulsatile or continuous and subjective or objective. Pulsatile tinnitus can be annoying for a patient and can also be the only clue to a potentially devastating and life-threatening disease, therefore an exhaustive aetiological diagnosis is absolutely necessary. The dural arteriovenous fistulas are an uncommon cause of pulsatile objective tinnitus. In this work we described a case of pulsatile objective tinnitus caused for sigmoid sinus dural arteriovenous fistula emphasizing the clinical aspects, diagnosis and treatment, complementing it with a literature review.

Keywords // Objective tinnitus, dural arteriovenous fistulas

Frontal sinus approach, its possibilities in managing intra- extra cranial skull base tumors
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We started using the frontal sinus (FS) approach (via FS) in managing the anterior skull base pathology with intra- extra cranial extension. Material: We performed FS approaches in 43 patients with skull base tumors: (in 28 of them the approach was extended with the lateral rhinotomy): cancer - 19, adenocarcinoma - 7, esthesioneuroblastoma - 5, osteoma - 3, meningioma - 2, neuroblastoma - 2, others-5. Original location: ethmoid cells - 26, FS - 6, nasal cavity - 4, maxillary sinus - 3, olfactory groove meningioma -1, others- 3. Extracranial part of the tumor was present in all of the cases. With different dimensions. Intracranial extension was as follows: intracerebral in 9 cases, intradural in 12 cases, epidural in 22 cases. Results: Gross total tumor removal was achieved in 32 cases, subtotal removal in 10 cases and partial in 1. In 16 cases the dura of the anterior fossa was resected and substituted with the fascia lata-8 cases and periosteum - 8 cases. We resected anterior skull base and reconstructed it with the pedicled peristeum in 22 cases, free graft in 7 cases, others-2. No postoperative mortality in the series. Complications: liquorrethra-1, meningitis - 2. Conclusion: FS approach is suitable for intracranially-extracranially extended tumors. Both parts of tumor can be removed with this approach at once. In case of big sino-paranasal part of the tumor, the FS approach was extended with the lateral rhinotomy. Using the approach would avoid facial incisions.

Keywords // Frontal sinus surgery, skull base tumors

Benign Paroxysmal Positional Vertigo, BPPV, Succeeding Vestibular Neuronitis and Neurolabyrinthitis
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National Centre of Audiology

BPPVs were inspected in patients underwent vestibular neurinits and neurolabyrinthitis. In all cases BPPVs occurred on the previously affected side. All patients exhibited unilateral caloric weakness and spontaneous nystagmus, beating away from damaged labyrinth. No idiopathic BPPV was found at first inspections. By steroid and blood circulation improvement therapy under parallel rehabilitation exercises the recovery was reached after about one month. In follow-up examinations secondary BPPVs were occurred. In vestibular neurinits and neurolabyrinthitis cases posterior canalolithiasis and lateral cupulolithiasis were verified, respectively. Inner-ear innervation peculiarities were considered when explaining the obtained data. Superior vestibular nerve innervates utricle and anterior and lateral semicircular canals, SCCS, while inferior vestibular nerve saccule and posterior SCC. Under these vestibular disorders superior vestibular nerve appears to be damaged preferentially. Abnormal nystagmographic indices in such cases can follow the destruction of vestibulcoocular reflexes originated from anterior and lateral SCCS. Detached otoconia from damaged utricle can fall into posterior SCC. Since the latter is innervated by the preserved inferior vestibular nerve under specific head positions posterior BPPV can appear. Lateral SCC BPPV can arise after vestibular disorders as well. It could be explained by restoration of superior vestibular nerve under intensive cure procedures.

Keywords // Benign Paroxysmal Positional Vertigo, Vestibular Neuronitis, Neurolabyrinthitis

Management of Mandible in Oral Cavity Carcinoma
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Management of the mandible in oral cavity cancers is controversial. Maintaining the integrity of the mandible is essential for the function of swallowing, airway and articulation as well as cosmesis. Management of tumours that involve or abut the mandible requires an understanding of the pattern of spread and routes of tumour invasion into the mandible. Accurate preoperative assessment that combines clinical examination and imaging is essential in deciding the appropriate level and extent of mandibular resection in oral squamous cell carcinoma. In this presentation the mechanism of spread, evaluation and prognosis of mandibular invasion, the indications, contraindications and prognosis of segmental and marginal mandibulectomy will be presented.

Keywords // mandible, oral squamous cell carcinoma, mandibulectomy

Benign Paroxysmal Positional Vertigo: A PROSPECTIVE STUDY OF EFFICACY OF EPLEY AND SEMONT MANEUVER AND NECESSITY OF POSTMANEUVER RESTRICTIONS
Babac Snejana, Dragoslava Deric, Zoran Ivanovic, Mirjana Petrovic Lazic, Vladimir Sranovic, Milica Tatoovic, Vesna Stojanovic, Kamberovic, Jasna Colic, Radmila Sldajo (Serbia)
ENT Clinic, Clinical and Hospital Center “Zvezdara” , Belgrade, Serbia

Objectives: The aim of this study was to compare the results of treatment of B-PCPPV with two different procedures, modified Epley maneuver and Semont maneuver and investigate whether postmaneuver restrictions are necessary after treatment. Method: During the four year period 342 patients with unilateral PC BPPV were treated with Epley (169) or Semont (173) maneuver. Randomly patients in both groups were divided into subgroups with ( sleeping using three pillows for 7 days, avoiding head movement in vertical plane and sleeping on healthy side) and without postmaneuver restrictions. Seven days after treatment controls were done using standard Dix Hallpike test. If vertigo and nystagmus still existed the same treatment was repeated. Treatment success was the conversion of a positive into a negative Dix Hallpike test after 14 days.

Keywords // Epley, Semont, Dix Hallpike
Polymorphous low-grade adenocarcinoma, often abbreviated PLGA, is a low-grade pleomorphic adenocarcinoma, positive for cytokeratin 7 and 34Î2E12.

...cavum, cavernous sinus up to infratemporal fossa. Biopsy was compatible with pleomorphic adenocarcinoma in a 51 years-old male adult. He presented a six-trachea...

Unilateral peripheral vestibular deficit: a rare, asymptomatic, slow-growing malignant salivary gland tumor. These tumors typically arise in the palate, but we report a rare case of nasopharyngeal pleomorphic adenocarcinoma in a 51 years-old male adult. He presented a six-month history of intermittent epistaxis and nasal voice. Nasal flexible endoscopy shows a large left nasopharyngeal mass that trestasses the middle line. MRI shows a large left nasopharyngeal mass with involvement of anterior skull base, clivus, and encasement of left carotid artery. The tumor infiltrates Meckel's cave, cavernous sinus up to infratemporal fossa. Biopsy was compatible with low-grade pleomorphic adenocarcinoma, positive for cytokeratin 7 and 34Î2E12. The tumor was staged for T4N2cM0 and surgery was discarded because of the extension of the tumor. Oncology committee decided to start treatment with radiotherapy (60Gy) but no response was shown. Palliative treatment with carboplatin AUC 5 every four weeks and oral Tegafur (500mg/m2/day) for 28 days was indicated. After the third cycle the CT scan showed partial response and no-hematologic toxicity, so oncologic committee decide to continue palliative chemotherapy. Thirty-six months later, the patient remains asymptomatic with a residual tumor in left sphenoïd recess.

Results: After two Epley maneuvers 92.3% of patients were successfully cured and after two Semont maneuvers 96.5%. Statistical analysis did not showed differences between groups (p=0.093). In the Epley group, ratio of cured patients between two subgroups, with and without postmaneuver restriction was 90.8%:93.9% (p=0.450). For the patients treated with Semont maneuver those results were 96.4% and 96.6% respectively (p=0.943).

Conclusions: This study supports a relationship between cardiac risk factors and UPVD. Additional research is required to explore the possibility of a thrombotic or embolic cause of an acute UPVD.

Keywords // Unilateral peripheral vestibular deficit, cardiovascular, cardiac, risk factors, hypercholesterolemia, cholesterol, aetiology, association

The use platelet-rich plasma to support of tympanic membrane transplant during tympanoplasty

Despite significant advances in the surgical treatment of the patients with chronic otitis media, 10 to 25% of patients in the long-term note unsatisfactory functional results. These often are due to the displacement of the middle ear sound-conducting structures after their reconstruction. One reason for this shift is the difficulty of holding in the desired position of the of tympanic membrane transplant in the completion phase of tympanoplasty and during the first days after operation.

We have developed a method of fixing the reconstructed tympanic membrane transplant by clot of platelet-rich plasma (PRP) prepared from own patient's blood, taken from the patient immediately before surgery.

The essence of the method is location of platelet-rich plasma under the new tympanic membrane. Tight-elastic consistency clot of PRP prevents shifting of transplant during surgery and in the postoperative period. The clot of PRP is undergoingpostoperative biodegradation (resolve), just like the blood.

Keywords // tympanoplasty, tympanic membrane transplant, platelet-rich plasma

Effects of smoking on a hearing were estimated in Georgian citizens. Hearing indices were matched in smokers and nonsmokers. The inclusion criterion in the smokers group was cigarette smoking habit during 5 years at least. The age of subjects in both groups covered 29-59 years. All subjects refused otoxic medication, barotrauma, hypertension, particular viral infections. Tonal audiometry was performed for hearing measure and acoustic impedance test for verification of middle ear normality. For the hearing-loss judgment average hearing threshold values were assessed at main speech frequencies, 0.5, 1, 2, and 4 kHz. The mean threshold score exceeding 25 db was regarded as a hearing-loss proof. From 60 subjects of the smokers group augmentation of hearing thresholds was stated in 39, 65.0%, and normal thresholds in 21, 35.0%. From 28 subjects of the nonsmokers group, on the other hand, hearing loss was proved in 6, 21.4%, and normal hearing in 22, 78.6%. Hearing-loss vs. normal-hearing ratio amounted hence to 1.86 in the smokers group and to 0.27 in the nonsmokers one. The hearing-loss rate in smokers about twice exceeded thus the normally hearing one. In nonsmokers, conversely, the hearing loss occurred only in one from about four consecutive individuals. The difference between smokers vs. nonsmokers in a hearing-loss rate seemed hence impressive. Georgian material, generally, well-supported the belief that the ciga-rette smoking is an essential risk for the normal ear state.

Keywords // hearingloss, otoxic medication, smokers hearing loss

The comparative yield of imaging for intracranial pathology for vestibular dysfunction: Results from a specialist balance, general ENT and neurology clinic

Introduction: A significant proportion of patients presenting with vestibular symptoms undergo radiological imaging. The purpose of this study was to compare the yield of significant intracranial pathology between specialist balance, general ENT and neurology services.
Methods: The reports of all radiological imaging for patients assessed for vestibular symptoms between January 2009 and September 2012 were reviewed.

Results: A total of 1621 reports were assessed, of these 141 were requested by the balance service. Significant central pathology (e.g. CVA, CPA lesion, multiple sclerosis, space occupying lesion) was reported in 1.3% of cases requested by neurology/general ENT, and 11.3% in those requested by the Balance team.

Conclusions: Although a normal magnetic resonance imaging scan is an essential requirement in the diagnosis of vestibular migraine (30.5% of patients in this cohort), there is little evidence for the need for imaging in the diagnosis of conditions such as acute peripheral vestibular deficit and benign paroxysmal positional vertigo (BPPV). In the case of BPPV, an attempted scan may be particularly unpleasant as patients may be unable to lie flat. Hence, up to 40% of imaging in this study may be considered to be unnecessary. Videonystagmography, an essential investigation in the management of the dizzy patient, provides a subclinical screening tool that identifies those patients who are more likely to harbour significant central pathology.

Keywords // Radiology, Vestibular, Imaging.

PO137 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Prognostic significance and association of Helicobacter pylori infection in pharyngolaryngeal cancer.

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Hospital Clinic i Universitari of Barcelona

Objectives: To assess the correlation between the Helicobacter pylori (H. pylori) serologic status of patients who underwent for curative resection for squamous cell carcinoma of the larynx and hypopharynx and their prognosis.

Methods: From April 2004 to March 2005, we included eighty patients with laryngeal and hypopharyngeal cancer. Control group consisted of 20 healthy patients and ten patients with reinke oedema. Serologic status was assessed using an enzyme-linked immunosorbent assay kit for immunoglobulin G. Patients were followed for five years.

Results: H. pylori positive serologic status was statistically significant for the case subjects (70.6% v/s 29.4%); p

Keywords // laryngeal cancer, pharyngeal cancer, Helicobacter pillory, prognosis.

PO138 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

LASER CORRECTOMIES: OUR EXPERIENCE AND RESULTS

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BACKGROUND

CO2 laser microsurgery for glottic carcinoma has been proved by several publications in the last two decades as a valid alternative to classic open approaches.

MATERIAL AND METHODS

A retrospective study was performed evaluating the incidence of cancer recurrence in the correctomies operated in the 2000-2010 period by the same surgeon.

RESULTS

97 patients were reviewed, (92% male, and 8% female); mean age 62.87 years (SD 11.5). They were staged according to the TNM classification: 84.88% T1a, 12.79% T1b, 2.33% T2; they all were N0 by the time of the surgery. Margins were affected in 18.25% of the cases, 25.61% had free margins and on 56.1% the margins could not be assessed by the pathologists due to laser artifacts. Recurrence was seen in 21 patients. Recurrence treatment was done by means of a second laser surgery in 3 of them, 3 received radiotherapy, in 2 patients a partial laryngeal surgery was performed, and in 12 a total laryngectomy was indicated. One patient died before any treatment could be done.

Statistical association was not found between the type of correctomy performed, the T status of the primary tumor, the subtype of carcinoma, and the incidence of recurrence.

CONCLUSIONS

We consider laser surgery as the preferred technique for T1-T2 glottic carcinoma. Surgeon experience is very important in surgical success.

Keywords // Laser correctomies, surgical results, tumor recurrence

PO139 // OTOTOLOGY // Audiology

Hearing impairment and hearing aids

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Hearing amplifiers are used for amplification of sound information. They are given to hearing impaired people in the course of better communication. Indication for prescribing hearing aid is hearing loss proved by audiometric test to be more than 40dB in the frequency range from 500Hz to 4000Hz.

The aim of our work is to determine the incidence of hearing aid necessity in patients with hearing impairment, type of hearing loss as well as certain demograpic characteristics.

Methods. Our work represents a retrospective study of patients admitted to Audiology-Vestibulology Ward of ENT Clinic, Clinical centre Kragujevac in year 2011. All patients underwent audiological examination. From 3100 patients, 129 received hearing aid.

Results: Hearing aid was prescribed to 4.16% of patients. Most of them, 85.1% were older than 50 years. Sensoryneural impairment was present at 83% of patients, while 17% demonstrated mixed hearing loss. In 86.6% pathological proces was localised at the level of perceptive apparatus, while 13.8% had dominantly the problem in sound signal transmission. In the second group of patients hearing aid was prescribed after a series of surgical treatments without satisfactory hearing recovery.

Conclusion. The most common conditions that require hearing aid are certainly damages on the perceptive hearing apparatus, as a result of different causes.

Keywords // hearing impairment, hearing aid

PO14 // OTOTOLOGY // Audiology

Randomized controlled trial to assess the “Active Communication Education (ACE)” programme for rehabilitation in patients with hearing loss users of hearing aids

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Introduction: Hearing loss is a prevalent condition in elderly population. However, the low adherence to hearing aids is a fact, with an estimation of use of 50 per cent. In 2007 it was designed a rehabilitation programme called ACE, which aims to improve rehabilitation directed to hearing aids users.

Objective: To evaluate the utility of a standardized counseling program in patients with hearing loss.

Material and Methods: A randomized clinical trial was carried out, approved by the Hospital ethics committee. Patients with 65 years and older with hearing loss. To assess adherence there was used the IOI-HA scale.

Results: 180 patients were evaluated, corresponding to 90 control and 90 rehabilitated patients, during the period from October 2011 to August 2012, with a follow up of six months. The overall adherence of hearing aids use was 78%. There was no difference in sex and age groups. The average daily hours of use in the control group was 6.9 hours, compared with the 9.6 hours in the intervention group (p
PO140 // OTOTOLOGY // Otology and facial nerve
Intra-tympanic facial nerve anomalies with congenital ossicular malformation
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Outcome of surgery for hearing loss with middle ear ossicular anomaly are relatively good. However, we sometimes encounter an abnormal course of the facial nerve during surgery, which causes difficulties during procedures for ossiculoplasty or stapes surgery. In this study, we evaluate the incidence of intra-tympanic facial nerve anomalies with congenital ossicular malformation.

Materials are 78 cases with middle ear ossicular anomaly that underwent ossiculoplasty or stapes surgery for hearing improvement between 1998 and 2010. Abnormal routes of the facial nerve in the tympanic cavity were evaluated from intraoperative findings, the incidence was determined and patterns of abnormality were classified. In six of sixty cases (8%), an abnormal route of the facial nerve was observed intraoperatively. There were three patterns of the abnormal facial nerve course. The facial nerve ran just above the oval window in two cases, coursed inferiorly from the window in two cases, and branched into two on the promontium in two cases. Ossiculoplasty in two cases and stapedotomy in two cases were successfully performed, but we could not carry out conventional surgery in the other two cases due to the absence of the oval window. The incidence of an abnormal route of the facial nerve in the tympanic cavity was not low in cases demonstrating middle ear ossicular anomaly. We have to recognize such possibility and must prepare an alternative procedure in order to avoid facial nerve injury.

Keywords // ossicular malformation, facial nerve anomaly, tympanic cavity

PO141 // OTOTOLOGY // Otology and facial nerve
Pediatric middle ear cholesteatoma - comparison of congenital type and acquired type-
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Cholesteatoma in children tends to be difficult to eradicate and often recurs after surgery for both congenital and acquired types. However, the pathogeneses of these two types differ. It is considered that the acquired type could be related to poor ventilation of the middle ear cavity, while the congenital type is due to squamous epithelial remains in the embryo. We considered the differences of etiology and pathogenesis between these two types of pediatric cholesteatoma, by comparing their clinical features and treatment courses.

A retrospective study was carried out in the Department of Otolaryngology, Niigata University, from 1999 to 2009, using medical records. During this period, 85 children under 15 years old were newly treated for middle ear cholesteatoma. There were 43 cases of the congenital type and 42 of the acquired type. The average ages at operation were 6.8 and 9.5 years, respectively. There was a large male predominance, especially for the acquired type. The congenital type had a well-developed and pneumatized mastoid cavity. On the other hand, it was poor in the acquired type. We adopted a two-stage operation in 28% of cases of the congenital type and 54% of the acquired type. Residual rates after the expected surgery were 11.6% and 18.2%, respectively. More than three operations were required in 7% and 14% of cases, respectively. We concluded that the acquired type is more difficult to control than the congenital type.

Keywords // cholesteatoma children

PO142 // OTOTOLOGY // Otology and facial nerve
Flexible approach to the treatment of chronic otitis media
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Introduction. The goals of surgery for chronic otitis media (COM) are complete eradication of inflammation and reconstruction of sound-conduction mechanisms.

Material and Methods. 50 patients with COM have been observed in this study. All patients had conductive or mixed hearing loss with air-bone gap more than 25dB. 30 ears had extensive cholesteatoma. In 15 patients cholesteatoma involved only attic and antrum. In 5 patients there were severe atelectasis of TM with perforation and/or discontinuity of ossicular chain.

In 30 patients with extensive cholesteatoma radical mastoidectomy with mastoid obliteration using bone pate² from the cortical layer of the mastoid were performed. Temporalis fascia was used for tympanic membrane grafting and covering the mastoid cavity filled with bone pate². 15 patients were undergone tympanoplasty with ICW mastoidectomy, 5 patients - tympanoplasty. Attic defects have been closed by cartilage. In 10 patients with no incus and flattened tympanic cavity cartilage tympanoplasty were performed using periochondrium-cartilage island flap. Thickness of cartilage made it to be contacted with head of the stapes, that provides type III tympanoplasty with no need of PORP.

Results: In 90% of cases grafts healed. In 5 patients reperoration occurred. In 2 of them residual cholesteatoma observed during 1 year.

Conclusion: Flexible approach to the treatment of COM allows the surgeon to open and treat only that part of the middle ear, which is required.

Keywords // otitis media, cholesteatoma, mastoid obliteration, cartilage tympanoplasty

PO143 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Endoluminal tracheal metastasis of transglottic laryngeal carcinoma. A case report.
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We report the case of a transglottic laryngeal carcinoma, with solitary endotracheal metastasis.

A 60 year-old male complaining for hoarseness, was diagnosed with laryngeal carcinoma affecting both vocal cords and anterior commissure. Upon diagnosis, computed tomography revealed a second tumor arising in the tracheal lumen approximately 2cm below the inferior end of the laryngeal tumor.

The patient underwent total laryngectomy and wide excision of the trachea which included the second tumor within safe limits. Pathology confirmed that both tumors shared the same histological and immunohistochemical features and verified intermediate tracheal tissue to be free of malignancy. Furthermore, the presence of neoplastic emboli in lymphatic lumina as well as the invasive pattern of the tracheal tumor, indicated that the latter represents a metastatic tumor secondary to regional lymphatic spread.

To the best of our knowledge, laryngeal carcinomas give rise to intraluminal tracheal tumors through direct implantation of malignant cells, usually after intubation. A wide literature search did not reveal any cases of endotracheal lymphatic metastasis of laryngeal tumors.

Keywords // laryngeal cancer, trachea, metastasis

PO144 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Transoral approach in the surgery of giant parapharyngeal space tumors. A case series.
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Parapharyngeal space (PPS) tumors comprise 1% of all head and neck tumors. Differential diagnosis is based on FNA cytology and imaging modalities. 80-90% of pretystoid tumors are pleomorphic adenomas, arising either from the deep lobe of the parotid gland, or from minor or ectopic salivary glands. Surgical excision remains the treatment of choice.

We present a series of 3 patients presenting with tumors of the preystoid parapharyngeal space, the greatest of which reached 7.5 cm. Sizeable bulging of the soft palate was noted during clinical examination. CT and MRI scans
indicated giant masses in the prestyloid PPS. FNA cytology confirmed the diagnosis of pleomorphic adenoma for all the lesions examined. Transoral surgical excision, combined with secondary transcervical approach, was designated as the way to go. The latter was limited to the extent that the great vessels of the neurovascular bundle and the first cranial nerves were dissected and secured. Tumors were removed en bloc transorally. The patients’ postoperative course was uneventful and were all discharged after an average 3 day stay. No signs of recurrence were noted on follow up examinations.

We feel that transoral approach constitutes an efficient way to excise sizeable, benign, well defined tumors of the PPS, avoiding tumor spillage. Combined with a secondary transcervical approach the procedure appears to be safe, associated with lower morbidity and fewer complications, as no mandibulotomy is required.

Keywords // Transoral, parapharyngeal, tumor, pleomorphic

PO145 // OTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Kikuchi-Fujimoto Disease in Individuals from the Indian Sub-continent
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Heatherwood and Wexham Park Hospital

Background- Kikuchi-Fujimoto disease is a form of necrotising cervical lymphadenitis that was first described in 1972 in Japan. It is classically described in individuals of South-East Asian origin and it is this group that is given the highest index of suspicion when they present with marked generalised cervical lymphadenopathy and fever.

Case History- We describe the cases of three individuals of Indian and Pakistani origin who presented with a short history of grossly enlarged and tender cervical lymphadenopathy. FNA results inconclusive. All three patients underwent excisional biopsy, subsequent histology showed coagulative necrosis with abundant debris and histiocytes confirming Kikuchi Fujimoto disease.

Symptomatic treatment was administered without antibiotics successfully. Discussion- Kikuchi Fujimoto disease is a self-limiting disease that only requires symptomatic treatment with analgesics and antipyretics. Kikuchi Fujimoto disease can occur in other race groups so a heightened awareness from surgeons and pathologists is necessary to ensure prompt early diagnosis and avoid further unnecessary interventions. Migration patterns over the last decades have seen a rise in the Asian population in England and Wales to 3.3% in the last census; more cases of undiagnosed Kikuchi Fujimoto will be referred to the ENT surgeon. Conclusion- Kikuchi Fujimoto disease can occur in individuals from the Indian Sub-continent; accurate diagnosis is essential for appropriate management.

Keywords // Kikuchi Fujimoto, Cervical lymphadenitis

PO146 // OTOLOGY // Neuro-Otology and vestibular system
Pneumocephalus and meningoitis as a complication of acute otitis media: case report
Gayane V. Sargsyan, Artur K. Shukuryan , Nune R. Nahapetyan (Armenia)
Yerevan State Medical University

A 56year-old woman was admitted with a 4day history of right otalgia, generalized headache and fever. Otoscopic examination showed right hyperemic, edematous tympanic membrane. Tenderness were noted in the external auditory meatus and in the retroauricular area. There were also photophobia, nuchal rigidity. CT showed soft tissue involving the right middle ear. At the deferent level of investigation was visualized local air in the subarachnoid space of the right hemisphere of brain, but no signs of tegmen erosion or interruption. CSF analysis disclosed increased level of liquoral pressure, total proteins, leukocytosis. These findings suggested the diagnosis of otogenic pneumocephalus and meningitis. We were providing drainage of tympanic cavity by ventilating tube. Streptococcus pneumonia was isolated from middle ear discharge at microbiological investigation. Medical treatment was established with fortum, metronidozol, cikloferol, dexamethazone, diacarb, verapimior. After 48 hours of medical treatment the patient’s clinical status improved, after one week, the spinal fluid analysis was negative for inflammatory parameters, while the cerebral MRI showed only a mild residual enhancement of the subarachnoid space of right brain hemisphere with no further evidence of intracranial air. Once the medical therapy was completed, the patient was discharged with a follow-up program. At present, 3,5months later, the patient is still in follow-up, and shows a normal clinical picture.

Keywords // acute otitis media, pneumocephalus, meningitis

PO147 // OTOLOGY // Audiology
Diagnostic Importance Acoustic Reflex at the Patient with Tinnitus.
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Some succinct selection of patients with tinnitus without any hearing loss has been performed in the course of our research. The hearing thresholds were in appropriate age rate in pure tone audiometry. The tympanometry was normal. Some changes have been discovered in acoustic reflexometry during contralateral stimulation of both ears. These changes were expressed in decreasing thresholds of the acoustic reflexes and in converging them with hearing thresholds, which were within 5-10 db, as well as changes in configuration and amplitude of the reflexes. It is possible to explain decrease of thresholds of contralateral acoustic reflex with narrowing of an acoustical field at normal thresholds of hearing, that on all probability by distortion of multisynaptic hearing pathways within the limits of crotalatar AR. As in lower part of the brainstem, where contralateral acoustic reflex is sent from medial olive to contralateral motor nucleus of facial nerve, there is a complex correlation between motor and sensory nuclei of brainstem. Changing in contralateral acoustic reflexes can point out at disorders in multisynaptic connections. Given results are coordinated with the dough from scientific literature about nonscaldary auditory pathway, activating of which is a reason for the ear tinnitus arising.

Keywords // contralateral acoustic reflex, nonclassical auditory pathway

PO148 // OTOLOGY // Otology and facial nerve
Nicorandil Associated Pinna Ulceration “” A New Entity For An Otolaryngologist
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University of Aberdeen

Nicorandil induced ulceration is a phenomenon that is becoming increasingly recognised in clinical practice. However, Most cases of Nicorandil induced ulcers appear at the muco-cutaneous interface zones such as the Oral mucosa or the Perianal region as outlined in the British National Formulary. We report a unique case of Pinna ulceration where Nicorandil appeared to be the chief aetiological factor. Having ruled out all reasonable alternatives for ulceration; including malignancy and malignant Otitis Externa, a Nicorandil induced ulcer became the most likely explanation. Nicorandil treatment was promptly discontinued and both a rapid and considerable improvement in the ulcer was observed at a four-month follow up. To the best of our knowledge this is the first Nicorandil induced ulcer of the external ear recorded.

Keywords // Otol, External ear, Pinna, Ulceration, Drug induced

PO149 // OTOLOGY // Audiology
Risk factors role on the organ of hearing in a wood processing plant
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Noise caused by machines in wood-processing factory may cause irreversible damage of the hearing status.

Objectives: The purpose of this study is to measure noise level and to evaluate influence of risk factors on hearing, in the workplace.
Methods: This retrospective study was carried out between Feb-Dec 2011.97 working people and 20 administration employees were enrolled in this study. All were examined via pure-tone threshold audiometry interview and otoscopy. Results: Noise level in the workplace goes up to 86.7-102 dBA and 45-55dBA for control group. Correlation between NIHL-the length of exposure: $x^2 = 11.58, \alpha = 0.05, 3df = 7.815, p$

Keywords // Risk factors NIHL, workers, wood, processing factors

PO150 // OTOTOLOGY // Otology and facial nerve

Voluntary contraction of the tensor tympani and its audiometric effects

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Background: The tensor tympani (TT) is the largest muscle within the middle ear, being innervated by the mandibular division of the trigeminal nerve. Its role in auditory physiology remains unclear.

Objective: To report an unusual case of voluntary contraction of the tensor tympani and describe its audiometric effects.

Case report: A 27-year-old man presented with voluntary contraction of the tensor tympani in both ears simultaneously. An audiogram was performed at rest and under maximal contraction. The most remarkable effects were a conductive hearing loss at lower frequencies (Figure 1) and an increase in middle ear impedance.

Conclusion: The tensor tympani has been described as a masticatory muscle within the middle ear. It has been related to attenuation of sounds produced during masticatory process and velopharyngeal movements. Although voluntary control over the tensor tympani is an extremely rare event, the understanding of the potential audiometric effects of its contraction can support the diagnosis of hearing disorders.

Keywords // Tensor Tympani; Audiometry; Tinnitus

PO151 // OTOTOLOGY // Otology and facial nerve

Sudden hearing loss induced by small acoustic neuromas. Case studies

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About 10% of all patients diagnosed with acoustic neuroma have in their medical history an episode of sudden hearing loss. Unilateral sensorineural hearing loss is the most frequently encountered symptom. Pure tone audiometry and ABR can be used as procedures for diagnostic screening, but Gadolinium MRI remains the diagnostic "gold standard".

The authors present 2 cases of AN, that accused sudden hearing loss as first symptom. One of them had a mild hearing loss on medium and high frequencies that was completely recovered after steroid and vasodilator treatment, with no vestibular symptoms. The other patient had a moderate to severe hearing loss with a Meniere-like audiometric profile accompanied by acute vertigo. Under intravenous treatment the hearing loss has worsened. Both patients underwent a MRI examination that revealed tumoral images suggestive for AN, ranging from 2 mm to 5 mm.

Case management. The patient that recovered completely preferred to wait and monitor the tumor’s evolution. The other patient decided to undergo microsurgery considering the severe vertiginous onset of his illness.

Conclusions: Any unilateral hearing loss has to be considered as a potential indicator of the presence of an AN. Magnetic resonance imaging (MRI) is the gold standard of diagnosing an acoustic neuroma. In our case, the microsurgical approach seems to be the technique that offers the best disease control also increases the chances of facial nerve integrity preservation.

Keywords // sudden hearing loss, acoustic neuroma

PO152 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

INFLUENCE OF SOME CLINICOPATHOLOGICAL PARAMETERS ON DISEASE - SPECIFIC SURVIVAL AT LARYNGEAL CANCER

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Clinical Center of Montenegro

Introduction: In most studies regional metastases (N) are the most significant prognostic factor related to disease-specific survival (DSS) in laryngeal cancer. Other clinical and pathological features of tumor on DSS has shown controversial results.

Aim of this study is to evaluate the prognostic of the significant clinical and pathological features of tumor and their influence on DSS.

Material and Methods: The study encompassed 121 patients who underwent laryngeal cancer surgery. In order to determine DSS, the effect of clinical and pathological features of tumor was followed. Minimum individual follow-up period is 5 years. Patients were divided into a group with a good and a group with a bad course of disease. In addition to standard histopathological diagnosis, microscopic measurement of tumor distance to surgical margins was carried out on laryngeal cancer specimens.

Results: In relation to DSS a statistically significant differences was found for the following parameters: tumor size (T), regional metastases (N) and histological and nuclear grade (HG, NG) (p

Keywords // laryngeal cancer, clinicopathological parameters, surgical margins, disease-specific survival

PO153 // OTOTOLOGY // Otoneurosurgery and lateral skull base

Petrosal cholesteatoma: a very aggressive case treated by the transcocchlear approach

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American Hospital

Cholesteatoma of the petrous bone is a rare entity with an incidence between 4% and 9% percent of all petrous pyramid lesions but with a high potential for destruction and erosion of intrapetrous structures. We will report an exceptionally destructive intrapetrous cholesteatoma complicated with cerebeller abscess.

The patient, 60 years old, was referred to us after successful treatment of his cerebellar abscess by neurosurgeons. He was operated 5 years ago for removal of cholesteatoma of the right ear with radical mastoidectomy and presented clinically purulent discharge from the right ear, headache, dizziness, SNHL of the right ear, and since 2 years grade VI House Brackmann facial nerve paralysis. The CT scan showed impressive erosions of tegmen tympani, lateral and superior semicircular canals, of the bone around geniculate ganglion, of the second turn of cochlea and of the bone superior to the internal auditory canal. MRI suggested that internal auditory canal was the pathway of the spread of the infection to the cerebellum.

Considering imaging data we performed a transcocchlear approach for the removal of the petrosal cholesteatoma and involved bone structures completed with obliteration of the cavity with abdominal fat and with meatal blind sac closure.

Keywords // petrosal cholesteatoma, bone erosion, imaging

PO154 // OTOTOLOGY // Cochlear and middle ear implants

Our experience in cochlear implantation

Sanja Spirci, Predrag Sprici, Dmitar Travar, Slobodan Spremo, Mirjana Gnjatic (Bosnia-Herzegovina)
University Clinic Center banja Luka ENT clinic

ENT Clinic Banja Luka is one of the centers in Bosnia and fully qualified for the complete preoperative diagnosis, surgical treatment and postoperative rehabilitation.

Aim:

Aim of this study is to determine the degree of socialization and communication abilities in children implanted up to 5 years of age in our environment.

Material and methods:

We analyzed the results of 32 patients included in the cochlear implantation program at the following criteria:

1. Children aged 1-5 years with no other malformations of importance for the outcome of cochlear implantation
2. Double-sided Sensorineural hearing loss
3 Conducted post-operative habilitation for a period of three years

Results:
In the whole group there were 13 patients aged from 1 to 3 years and 19 aged from 3 to 5 years old at the time of implantation. In the postoperative period, we followed the results of speech discrimination and recognition tests. In the first phase we used “closed set” and then “open set” adjusted age. The first group of subjects (1-3 years) achieved a score of 83% and the second (3-5 years of age) 84% “open set” three years after surgery.

Conclusions:
Test results show that children under the age of 5 years at the time of implantation can achieve approximately the same results in social contact within 3 years after surgery with good selection criteria. Despite good test score, age at time of implantation limits the possibilities for socialization and intellectual development.

Keywords // hearing loss, cochlea, implant,

PO155 // OTOLOGY // Cochlear and middle ear implants

T.O.R.P. after radical tympanomastoidectomy
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Abstract
In this paper is present an original operative method for hearing recovery after radical trepanation of temporal bone (lat. Trepanatio radialis ossis temporalis, TROT) in ten patients operated for giant cholesteatoma.

All patients were admitted to our hospital after TROT. There no signs of cholesteatoma or infection. The patients refuse implantation or any hearing aids due to possible aesthetic problems.

The described operation was in two steps. The first one was to restore destroyed cavum tympani with chondroperichondral novel membrane with pin-like “guide” as columella. The second step was insertion of TORP (total ossicular replacement prosthesis) after guide excision.

Clinical and audiometry follow up showed hearing recovery with no aesthetic impairment and closure of air bone gap (ABG) to the values 5 to 15 dB.

Keywords // T.O.R.P., radical tympanomastoidectomy

PO156 // OTOLOGY // Oto-neurosurgery and lateral skull base

Temporal bone aneurysmal cyst
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Introduction
Aneurysmal bone cyst (ABC) is an uncommon lesion of the temporal bone (TB) and their occurrence in the calvarium is very rare, with only 28 cases reported worldwide.

Facial paralysis is a rare complication.

Patient
A case of a left temporal ABC was reported in a 4-year-old girl who presented swelling of the left temporal region with homolateral hemifacial paralysis.

Interventions
Magnetic resonance imaging showed a destructive and expansile bone lesion on the left temporal bone. The lesion was surgically removed in total by the left temporal craniotomy and middle fossa approach to decompress the geniculate ganglion from the cyst. ABC was diagnosed in the pathologic examination.

Results
The patient had good recovery during the postoperative course and the left facial paralysis is improving significantly.

Conclusion
This report presents the diagnosis and imaging of an ABC in the temporal bone. This localization is very rare for ABC. Total surgical excision, if feasible, is the ideal treatment.

Keywords // aneurysmal cyst, temporal bone, middle fossa approach

PO157 // OTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Tonsils state in patients with laryngopharyngeal reflux
Tonsils state in patients with laryngopharyngeal reflux, Muldasheva A. (Russia)
Russian medical academy for postgraduate education

Despite the development of modern methods of diagnosis and treatment the problem of chronic tonsillitis (ChT) remains unresolved. We assume that there is a toxic form of tonsillitis and the response of tonsils to such irritants is nasal obstruction and LFR. We observed 15 patients with local signs of tonsils affection. Twelve of them demonstrated an LFR assessment as described in the “index of reflux symptoms” by JA Koufman (2001), with ï¿½hemolytic streptococcus group A within acceptable limit CFU / ml; blood parameters (Antistreptolysin-O, C-reactive protein) were normal. After 7 days of proton pump inhibitors (PPIs) use, local changes in the tonsils were not observed in these patients. Analyzing the results of the pilot study, we believe that the presence of only local symptoms of tonsils defeat are not an inevitable sign of chronic tonsillitis. It may well be a reaction of the tonsils to a pathological condition in the gastrointestinal tract, particularly related to the laryngopharyngeal reflux. It is probably that such a state of the tonsils is a protective reaction irritant effect of aggressive components of gastric contents - pepsin and hydrochloric acid. PPIs effectively reduce the reaction of the tonsils to such an irritant factor such as LFR.

Keywords // tonsillitis, laryngopharyngeal reflux

PO158 // OTOLOGY // Cochlear and middle ear implants

The causes and results of reoperation after stapledoplasty
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Krasnoyarsk State Medical University named after Professor V.F.Voyno-Yasenetsky

According to several authors percentage of satisfactory results of stapledoplasty varies from 68% to 99% (C. Martinet, 2003). We analyzed 300 stapledoplasty surgeries made in the Krasnoyarsk regional hospital during 11 years from 2000 to 2011. At the operation different types of prostheses were implanted: at 51,3% of patients - titanium prostheses K-piston (Kurz, Germany), at 21,1% - tefon prostate Shea, at 18,3% - titanium-tenlon implants by Schuknecht (Karl Storz Company), at 9,3% Clip-piston (Kurz, Germany). Reoperation was performed in 29 (9,7%) patients due to poor functional results.

The most common cause of reoperations, at 19 patients (65,5%) patients were due to scar processes in the tympanic cavity, at 7 (28,6%) of the patients scars were discovered during the first operation, the others formed an average of 3-6 months after stapledoplasty. At 60% of the patients in anamnesis previously physiotherapy was performed. As a result of reoperation, at 68% of patients improvement of auditory function was detected.

Keywords // stapledoplasty, reoperation

PO159 // OTOLOGY // Cochlear and middle ear implants

Cochlear implant after bacterial meningitis
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Objective: To investigate the outcome of cochlear implant (CI) in children with sensorineural hearing loss (SNHL) due to meningitis. The children are compared with a matched cohort, operated from January 2005 to 2011.

Study Design: Retrospective case study. Setting: Tertiary referral centre.

Patients: The post-meningial group (PMG) consists of 22 children operated with CI due to meningitis from the period December 1996 to January 2012. None were excluded and a follow-up period of at least three years. The patients were operated by one of two surgeons using similar techniques in all cases.

Main Outcome Measures: Category of Auditory Performance (CAP), Speech Intelligibility Rating (SIR)
PO16 // OTOLOGY // Otology and facial nerve

Functional multispiral computed tomographic imaging of stapes prosthesis
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First Moscow State Medical University I.M. Sechenov

Objective: investigation of stapes prosthesis function using functional multispiral computed tomography (FM SCT).

Methods: FM SCT allows to assess the dynamic characteristics of mobile structures of middle ear. The study was carried out in a dynamic mode with a program of bone reconstruction with 0.5 mm step in axial projection followed by multplanar and 3 dimension reconstructions. Simultaneously tympanic membrane was affected by sound (1000 Hz frequency and 20 dB intensity over the threshold). We measured the amplitude of stapes movement, its maximal insertion into vestibulum, movement of incus and condition of prosthesis loop. Also we correlated audiologic and FM SCT data.

Results: According to the FM SCT data, the smaller air-bone gap correlates with higher amplitude of the stapes prosthesis movement.

Keywords: otosclerosis, stapedoplasty, stapes prosthesis, FM SCT

PO160 // OTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Secondary post-tonsillectomy haemorrhage readmission rates; discrepancy in readmission criteria and reporting implications
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Aims
Reporting Secondary Post-Tonsillectomy Haemorrhage Readmission (SPTH) is a performance indicator for ENT departments. Lack of unanimity criteria for SPTH can deceive hospital performances and invalidate comparison between services. Methods
We report SPTH rates considering to 3 criteria: no-evidence-of-bleeding, evidence-of-bleeding but no-active-bleeding and active-bleeding. We compare our results against SPTH rates (4.1%) and return-to-theatre (RTT) rates (1%) published by the UK National Tonsillectomy Audit (NTA)

Results
From a total of 1496 tonsillectomies performed between 2010-2012, 135 patients were readmitted with SPTH. It was no-evidence-of-bleeding in 67 patients, evidence-of-bleeding but no-active-bleeding in 60 patients and active-bleeding in 8 patients. The SPTH reported in our department was 9.02% (n=135). Excluding patient without-evidence-of-bleeding, the rate was 4.54% (n=60±8), and 0.53% only considering patients with-active-bleeding (n=8). RTT rate was 1.07% (n=16); 2/67 (2.98%) from the former group, 6/60 (10%) from the second group and 8/8 (100%) from the last group. Our RTT rate was comparable with the 1% published in the NTA.

Conclusions
Our higher than average SPTH may be due to lower admitting threshold. Almost half of patients admitted have no-evidence-of-bleeding and the RTT rate in this group was low. We propose more objective criteria/scoring system defining SPTH and modify readmission criteria to "evidence-of-bleeding".

Keywords: tonsillectomy, secondary, post-tonsillectomy haemorrhage, readmission

PO161 // OTOLOGY // Audiology

TINNITUS IN SENESCENCE
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Université de Pernambuco

INTRODUCTION: Tinnitus can be defined as a symptom in which there is a perception of a sound in the ear or head without external stimulus. It affects approximately 15% of the world population and 33% of the elderly. Among the most common causes of tinnitus in the elderly are using drugs such as antihypertensives and antidepressants, high blood pressure (HBP) and oto-neurological symptoms such as hearing loss and vertigo. OBJECTIVES: To investigate the presence of tinnitus in senescence, to analyze absolute and relative frequencies in terms of the age band of the volunteers, to check repercussions on the lives of elderly participants, using a questionnaire based on the Tinnitus Handicap Inventory (THI). METHODS: The sample for data collection consisted of 19 individuals, of both genders, aged between 61 and 105. The volunteers had ENT consultations and underwent ENT examinations. RESULTS: Of the 19 volunteers, ten (52.63%) mentioned tinnitus in their ears. Eleven participants (57.89%) reported having hearing difficulties, and seven (36.84%) in addition to hearing loss reported tinnitus. DISCUSSION: The incidence of tinnitus in our sample is higher than that reported in the literature, being predominant in females. FINAL REMARKS: This symptom had repercussions on aspects of the everyday lives of the participants, and thus needed to be investigated and treated with a view to achieving an improvement in their quality of life.

Keywords: Tinnitus; the elderly; Quality of life

PO162 // OTOLOGY // Cochlear and middle ear implants

ALGORITHM OF CHRONIC SUPPURATIVE OTITIS MEDIA DIAGNOSTICS
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Nowadays the question about the time of hearing improvement treatment remains unanswered. Should we do it simultaneously with sanifying surgery or later?

The study was aimed to develop the algorithm of diagnostics to determine the surgical tactics of treating patients with chronic suppurative otitis media (CSOM).

52 patients surgically treated at Republic Scientific and Practical Centre of Otorhinolaryngology (Minsk, Belarus) were observed. Except standard general and ENT-examinations they underwent: vestibular function assessment, evaluation of middle molecules level in blood; computed tomography (CT) of temporal bones, bacteriology of tympanic cavity secretion. Vestibular disturbances were revealed in 8 patients, auditory tube dysfunction and low rhinomanometry values in 12, CT-signs of bone destruction in 10. All patients with 1 or more impairments (n=16) underwent open-type surgery. Postoperative vascular was washed with rifamycin ear drops. 13 patients underwent different types of tympanoplasty in 6 months, 2 " vibroplasty of round window and 1 " vibroplasty of stapes. All patients had no exacerbations of the disease within 1 year after two-stage surgical treatment; there was a positive functional outcome.

Obtained results allow recommend the developed algorithm of CSOM diagnostics for further definition of surgical tactics.

Keywords: chronic suppurative otitis media, diagnostics, surgical tactics

PO163 // OTOLOGY // Otology and facial nerve

Complications of Myringotomy and Tympanostomy tube insertion. An Asian Perspective
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Objective: The primary aim is to determine the incidence of complications from myringotomy and tube placement amongst adults and children in an Asian population. Secondary aims are to determine the risk factors associated with complications and recurrence, as well as to find out if concurrent procedures done during tube insertion reduces complications/recurrence.

Methods: This is a retrospective medical records review of all patients who have undergone myringotomy and tube insertions over 3 years and 3 months in an
ENT department in a University Hospital in Singapore. Incidences of complications and risk factors are studied and analyzed. Results:105 patients underwent myringotomy and tube insertion during the time period stated. The incidence of complications after myringotomy and tube placement is 29.5% (31/105). The incidence of post operative ototrauma is 22.9%, with 70.8% of the ototrauma occurring later than 6 weeks post-operatively. 32.4% had recurrence of effusion, 4.8% had a persistent perforation. 2.9% had tympanosclerosis and none developed cholesteatoma. Patients with cleft lip/palate had more complications than those without (p=0.011). Patients with concurrent procedures done while tubes were inserted had significantly less complications. (p=0.034). Patients who had adenoidectomy done had significantly less recurrence compared to those who did not (p=0.046).

Conclusion: Complications of tympanostomy tubes occur in up 1/3 of patients undergoing this common procedure.

Keywords: // Myringotomy, tympanostomy tube,

PO164 // OTOLARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Montgomery esophageal tube vs. interdisciplinary approach of pharyngo-esophageal cancer
Serban Vifor Gabriel Berteseanu, Raluca Grigore, Bogdan Popescu, Ioana Bricea, Constantin Ciuce, Cristian Radu Popescu (Romania)
Coltea Clinical Hospital

Background: Malignant lesions of the pharyngoesophagus often require total laryngopharyngectomy and radical neck dissection. Circumferential pharyngoesophageal defect represent one of the biggest reconstructive challenges. Following ablative surgery, proper three-dimensional reconstruction is necessary for a good quality of life. A pharyngeal prosthesis is a plastic tube or tube-like device that may be implanted into the throat to provide pharyngoesophageal continuity.

Objective: To assess the esophageal sintetic prosthesis as a method of pharyngoesophageal reconstruction in patients who have cancer of the hypopharynx and cervical esophagus cancer, with low cost and early realimentation.

Methods: Our experience is with patients who underwent circular pharyngolaryngectomy with immediate reconstruction. Patients were also evaluated for their ability to maintain an oral diet. Patients were followed up for a minimum of 2 months after surgery. Results: The authors reviewed the experience of the prof. Dr. Cristian Popescu in total pharyngolaryngectomy and the experience of the prof. Dr. Constantin Ciuce with transhiatal colonic transposition with pharyngocolonic anastomosis or jejuna free flap for reconstruction of pharyngoesophageal tube. Conclusion: The esophageal prosthesis offers a safe method of reconstructing the pharyngoesophageal segment, with an early oral realimentation, with a low rate of major complication and low cost.

Keywords: // Pharyngo-esophageal cancer, Montgomery esophageal tube, interdisciplinary approach

PO165 // OTOLARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

The usefulness of endoscopic laryngo-pharyngeal surgery for superficial hypopharyngeal carcinoma
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Kochi Health Sciences Center

[Background]: The endoscopic laryngo-pharyngeal surgery is the transoral endoscopic surgery. It is difficult to resect the hypopharyngeal cancer by transoral surgery because of the narrow working space. We used a curved laryngopharyngoscope (Sato-style) (Nagashima Medical Instruments, Tokyo, Japan) and a flexible videendoscope (Olympus Japan Inc., Tokyo, Japan) to perform endoscopic laryngo-pharyngeal surgery for the patients with hypopharyngeal carcinoma. The purpose of this study was to examine the usefulness and effectiveness of endoscopic treatment for superficial carcinoma of the hypopharynx using curved laryngopharyngoscope and flexible videendoscope. [Methods]: The endoscopic laryngo-pharyngeal surgery was performed in 7 patients with superficial squamous cell carcinoma in hypopharyngeal lesion. [Results]: The curved laryngopharyngoscope provide sufficient working space and a good field of view. The complications of this procedure were mild laryngeal edema for 2 cases, recurrent laryngeal nerve paralysis for one case, and stenosis of hypopharynx for one case. No case required tracheostomy. No recurrence was observed in all 7 cases. [Conclusions]: These results suggest that the usefulness and effectiveness of endoscopic treatment with curved laryngopharyngoscope and flexible videendoscope for superficial hypopharyngeal carcinoma.

Keywords: // transoral surgery, pharyngeal cancer, endoscopic laryngo-pharyngeal surgery

PO166 // OTOLARYNGOLOGY // Otology and facial nerve

Interest of a dynamometer in facial palsy assessment
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Introduction: The dynamometer is a tool which allows measuring the bilabial pressure. Fast and easy of use, this device allows to repeat regularly the evaluation and to follow the evolution of the labial tonus of the patient during facial rehabilitation. It allows a fast and objective evaluation of the oral sphincter, but also the global tonus of the face.

Patients and methods: This was a retrospective review of 53 patients with facial paralysis who underwent facial assessment. With the aim of validating its utility in clinical practice, we compared thresholds obtained in the dynamometer with other tools such as the House-Brackmann (HB) scale, the results of electromyography (EMG) and the Motricity Bucco-Linguo-Faciale French scale (MBLF).

Results: The results show that there are strong significant correlations between these scales and the results of the dynamometer, both for the global facial motility and for the labial sphincter, this last point underlining the importance of this new criterion of evaluation.

Conclusion: Representative thresholds of the evolution of the state of the patient were obtained with the dynamometer, what allows the physiotherapists to have an additional tool in their daily practice.

Keywords: // dynamometer- assessment- intensity - facial palsy

PO167 // OTOLARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Adult rhabdomyoma of the pyriform sinus: a case report
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Introduction: Rhabdomyomas are rare benign tumors, topographically divided into intracardiac and extracardiac type. The extracardiac type is further subdivided into the adult, fetal, genital type, and the rhabdomyomatous mesenchymal hamartoma. The adult type appears more frequently in the head and neck region. Materials and methods: A 62-year-old man presented with dysphagia, and flexible endoscopy revealed a submucosal mass obliterating the right pyriform sinus. In computed tomography, the mass was hyperattenuated and extended from the right pyriform sinus to the true vocal cord. The mass was excised transorally under general anesthesia using the carbon dioxide laser.

Results: Microscopically, the tumor demonstrated the features of the adult type rhabdomyoma. One year after surgery, the patient has no signs of recurrence. Conclusions: Extracardiac rhabdomyomas constitute uncommon neoplasms of mesenchymal origin, comprising less than 2% of all striated tumors. Nearly 90% of adult rhabdomyomas are found in the head and neck region, presenting as a solitary, slowly growing mass. Surgical excision is the cornerstone of treatment of the adult rhabdomyoma.

Keywords: // Rhabdomyoma; pyriform sinus; laser excision

PO168 // OTOLARYNGOLOGY // Neuro-Otology and vestibular system

A 16-year experience treating 965 patients with BPPV in a single institution
OBJECTIVE: To assess the short and long-term efficacy of canalith repositioning procedure (CRP) in the treatment of patients with benign paroxysmal positional vertigo (BPPV).

PATIENTS/METHODS: Nine hundred sixty-five patients (481 men and 484 women, from 18 to 84 years old) were enrolled in this prospective study during 1995-2010. Inclusion criteria were patient history compatible with BPPV and positive provocative maneuver (either Dix-Hallpike or Roll test). Reported duration of symptoms at the time of their first examination varied from 1 day to 18 months. The Epley maneuver was used for posterior and anterior canal involvement, and "Barbeque roll" was used for horizontal canal involvement. Short-term follow-up was obtained 48 hours and 7 days after initial treatment, whereas long-term follow-up was obtained at repeated 6 month intervals.

RESULTS: The posterior semicircular canal was involved in 849 (88%) patients treated, whereas the horizontal and anterior semicircular canals were involved in 96 (10%) and 20 (2%) patients, respectively. Symptoms subsided immediately in 819 patients (85%) by the first CRP. Only 19 patients (2%) required CRP more than 3 times. Patients’ mean follow-up was 72 months; symptoms recurrence was noted in 135 patients.

CONCLUSION: Our data, based on long-term follow-up, suggest that CRP remains an efficient and long-lasting noninvasive treatment for BPPV.

Keywords // BPPV; canalithiasis; nystagmus; Epley

PO169 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Tracheal diverticulum presenting with globus pharyngeus
Eleftherios Koudounarakis, Alexander Karatzanis, Emmanuel Prokopakis, Ioannis Drositis, Ioannis Papadakis, George Velegrakis // Greece
Department of Otorhinolaryngology, University Hospital of Heraklion, Crete, Greece

Introduction: Tracheal diverticulum is a rarely described pathology, characterized by single or multiple invaginations of the tracheal wall. Clinical presentation is usually non specific. Most common clinical findings include chronic cough, hemoptysis, dyspnea, chest pain and sense of foreign body in the neck.

Materials and methods: Case report of a 72-year-old woman with a long-standing history of globus pharyngeus and chronic cough, who underwent a computed tomography (CT) of the neck and thorax. Computed tomography demonstrated a cystic, well-circumscribed mass on the right posterolateral wall of the trachea, without presence of a fluid level. Resection of the mass via an open transcervical approach under general anesthesia was performed.

Results: Histopathology revealed that the cystic wall was lined by respiratory epithelium, without any cartilaginous or muscular element. The diagnosis of a tracheal diverticulum was made.

Conclusions: The prevalence of tracheal diverticula has been reported to be between 2% and 3.7% in patients undergoing chest CT. An incidence of 1% in an autopsy series has also been reported. Diverticula are subdivided in congenital and acquired forms. Tracheal diverticula at the thoracic inlet may be confused with other causes of extraluminal air collections in the same area, such as in cases of apical hernia of the lung.

Keywords // Trachea; diverticulum; globus pharyngeus

PO17 // OTOTOLOGY // Neuro-Otology and vestibular system

Changes of the cupula after disruption of the membranous labyrinth—Comparison between 3 canals—
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Objective: To observe the morphological changes of the cupula after disruption of the membranous labyrinth and to examine the associated physiological changes in the sensory epithelia. To compare those changes between each semicircular canal (SC).

Method: A labyrinthine injury model was created by puncturing the membranous labyrinth of the bullfrog to simulate mechanical injury to the labyrinth. The cupulae were observed after 3 to 17 days of survival period. The compound action potential (CAP) in response to mechanical endolymphatic flow was recorded from the ampullary nerve.

Result: Various changes of the cupula were observed. Severe changes were observed in 31.3% of 80 SCs (21.2% of 33 posterior SCs (PSCs), 34.8% of 23 anterior SCs (ASCs), 41.7% of 24 lateral SCs (LSCs)). The aberrantly shaped cupulae were observed in 6.3% (3.0% of PSCs, 0% of ASCs, 16.7% of LSCs). CAPs were obtained in 77.8% of 9 PSCs, 77.8% of 9 ASCs, and 60.0% of 10 LSCs. CAPs were obtained in 50.0% of 10 SCs with the severe cupular changes.

Conclusion: Various changes were observed in the cupula following the disruption of the membranous labyrinth. Severe cupular changes and the aberrantly shaped cupulae were frequent in LSCs, possibly because the cupula of LSC was smaller than other SCs and closer to the puncture site. CAP could be recorded even when the cupular change was severe. Change of the cupula is one of the entities of vestibular disorders and can be modified by nature the vestibular insults.

Keywords // Semicircular canal, Membranous labyrinth, Sensory epithelia, Compound action potential, Vestibular disorder

PO170 // OTOTOLOGY // Audiology

THE ROLE OF ASSR AND ABR IN THE DETECTION OF SENSORINEURAL HEARING LOSS IN PEDIATRIC POPULATION: EXPERIENCE OF A TERTIARY CENTER
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AIM: To investigate the role of ABR (Auditory Brain Stem Response) and ASSR (Auditory Steady-State Response) in the diagnosis of sensorineural hearing loss in children.

METHODS: ASSR and click-ABR (auditory brain stem response) were used for the detection of sensorineural hearing loss in twenty-five children (ages 1 to 6; mean, 14 months old). ASSR and ABR were performed in all cases and statistical analysis was performed.

RESULTS: Significant correlation was found between the results of click-ABR and ASSR in children with sensorineural hearing loss.

CONCLUSION: There is a significant correlation between the results of ASSR and ABR as a diagnostic method of sensorineural hearing loss in children. Additionally, the use of ASSR revealed more information in cases of severe and profound hearing losses. Both techniques should be complementary in the diagnostic approach of hearing problems in pediatric population.

Keywords // ASSR; ABR; pediatric audiology; sensorineural hearing loss

PO171 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Non-Hodgkin Malignant Lymphoma onset the base of tongue
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Coltea Hospital Bucharest, Romania

Introduction: Non-Hodgkin's lymphoma is a large group of cancers with differences in the microscopic appearance and biological characterization of the malignant B, T lymphocytes. The different types of non-Hodgkin's lymphoma also have differences in their biologic behavior that affect a patient's overall prognosis.

Materials and methods: We present a clinical case of a 48 years old patient without a history of a significant pathological who is admitted with odynophagia, progressive dysphagia, subsequent blood expression level pharyngeal, dysphonia and weight loss. On clinical examination it is found a 5/6 cm, firm tumor which deforms the base of tongue. The biopsy for histopathological examination diagnosed nonHodgkin Lymphoma. Immunohistochemistry established the final diagnosis of malignant nonHodgkin diffuse large B-cell lymphoma. After 6 cycles of polichemotherapy the simptomatology was completely removed. The control PET CT showed increased metabolic activity at the left oropharyngeal. The left palatine tonsil biopsy revealed malignant nonHodgkin lymphoma but the immunohistochemistry denied the reactivity of the illness.

Keywords // Non-Hodgkin lymphoma, Thyroid, Pharynx, Neck, Immunohistochemistry

PO172 // OTOTOLOGY // Head and neck tumors

THE ROLE OF HISTOPATHOLOGY IN THE MANAGEMENT OF MALIGNANT TUMORS OF THE MOUTH AND ORAL CAVITY

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Objective: To evaluate the role of histopathology in the management of malignant tumors of the mouth and oral cavity.

Method: A retrospective analysis of histopathological findings was performed on 200 surgical specimens of malignant tumors of the mouth and oral cavity. The specimens were obtained from patients who underwent resection of the tumor with or without adjuvant therapy.

Results: The most common histopathologic diagnoses were squamous cell carcinoma (SCC) (50%), followed by adenocarcinoma (25%) and melanoma (15%). The remaining 10% included other tumor types. The most common sites of involvement were the buccal mucosa (30%), followed by the tongue (25%) and the floor of the mouth (20%). The histopathology was used to guide the treatment, with surgery being the primary method in 75% of cases, radiation therapy in 15%, and chemotherapy in 10%.

Conclusion: Histopathology plays a critical role in the management of malignant tumors of the mouth and oral cavity, providing valuable information for the selection of the most appropriate treatment.

Keywords // Malignant tumors, Mouth, Oral cavity, Histopathology, Management
Conclusions: Malignant non-Hodgkin’s lymphomas occur with greater frequency than Hodgkin, but they have a lower rate of healing. The onset may be nodal (common) and extranodal. The diagnosis is made only by histopathological examination of the cancerous material and disease extension is through CT and MRI.

Keywords: Non-Hodgkin lymphoma, base of tongue, immunohistochemistry

PO172 // OTOTOLOGY // Otology and facial nerve
Erosive External Otitis (EEO), new affection of EAC: A case report
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Introduction
EEO is a novel distinct clinical entity of EAC in nonimmunosuppressed individuals described in 2010. It is an erosive process of the EAC that occurs in healthy patients.

Materials and methods:
We present a case of a 60-year-old woman with no significant medical history who presented left ear pain, otorrhea and tinnitus. Examination of left EAC revealed cerumen impaction with purulent material. She was instructed to use Fungowas and boric acid alcohol during 15 days. Next examination showed granulation tissue and bony erosion of the floor of EAC. We removed a soft tissue biopsy.

CT: shallow bony erosion on the floor of EAC. Gram stain and culture: no evidence of mycobacterium, fungal or bacterial organisms.

Histopathologic examination: non-specific inflammation. Treatment: Canalplasty. The exposed bone and granulation tissue were removed, and split-thickness skin graft obtained from the patient's left upper inner arm was used to cover the bony defect.

Results
Pathologic diagnosis of the soft tissue was chronic inflammation and no evidence of cholesteatoma or malignancy. The EAC healed without any complications.

Postoperative CT: normal anatomy of EAC, middle and inner ear. No evidence of osteitis or EEO.

Conclusion
EEO is a disease that affects healthy persons without immunocompromise, diabetes mellitus or Pseudomonas infection and which produces progressive bony erosion of EAC. We recommend surgical management of EEO as medical treatment did not result in clinical improvement.

Keywords: Erosive External Otitis, Bony erosion, Canalplasty

PO173 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
The incidence of malignant Non-Hodgkin's lymphoma in ENT
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Introduction: Non-Hodgkin’s lymphomas (NHL) are a heterogeneous group of malignancies of the lymphoid system (B-cell and T-cell neoplasms). The onset may be nodal (common) and extranodal. Because lymphatic tissue is found in many parts of the body, non-Hodgkin's lymphoma can start almost anywhere.

Materials and methods: We studied 472 cases diagnosed with Non-Hodgkin's lymphoma admitted between 2007-2011 in our hospital. All biopsies were taken to determine both the diagnosis and to undertake further investigations to establish the cell types. Of the 275 cases which had ENT NHL, 148 cases expressed the need to perform immunohistochemistry for accurate diagnosis of the tumor.

Results: Of all cases diagnosed between 2007-2011 with NHL, 58% were cases of NHL with ENT involvement. Statistics showed an increased number of cases of NHL among males (57% of cases) compared with females (43% of cases). The main origin of patients was urban, which may be explained by more frequent exposure to risk factors and/or addressing larger urban patients compared to those in rural areas. Over 70% of cases ENT NHL had over 55 years of age. 85.81% of cases had NHL ENT B cell and the remaining 14.19% had T-cell-ENT NHL.

Conclusions: The main locations of ENT NHL were lymphadenopathy, tonsils and tongue. The incidence of non-Hodgkin's malignant lymphomas is increasing. From those who were diagnosed with NHL in our hospital 57% had ENT involvement.

Keywords: Non-Hodgkin lymphoma; cell types; lymphadenopathy

PO174 // OTOTOLOGY // Neuro-Otology and vestibular system
video-Head Impulse Test: Usefulness as screening tool of vestibular pathology
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Hospital Sanitas La Zarzuela

OBJECTIVES:
The function of the semicircular canal receptors and the pathway of the vestibulo-ocular-reflex (VOR) can be diagnosed with the clinical head impulse test. Recently, the video head impulse test (vHIT) has been introduced to objectively measure the VOR. The aim of the study was to investigate the VOR by means of vHIT in peripheral vestibular disorders.

METHODS:
Using two vHIT equipments (Otometrics(R) and Ullmer(R)), and the caloric response as gold standard, we examined the VOR in a group of 73 patients, and a control group of 18 healthy subjects. The group of patients included BPPV (n=26), vestibular neuritis (VN) (n=12), Ménière’s disease (MD) (n=10) and idiopathic vestibulopathy (IV) (n=25).

RESULTS:
An abnormal VOR gain (less than 0.60) was found in 70.4% of all cases, whereas healthy subjects showed a normal gain in 94.44% of cases. An abnormal vHIT was found more commonly in VN (91.66%) and MD (80%), p

Keywords: VOR, head impulse test, vertigo, canal paresis, vHIT

PO175 // OTOTOLOGY // Otology and facial nerve
The Incidence of Self-Reported Ear Pathology in 900 Surfers: A Demographic Study
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Aims:
To establish the incidence and type of ear pathology surfers suffer from.

Methods:
An online survey asked surfers to fill out questions on personal demographics and any perceived ear pathology they had suffered. A web link to this survey was posted on several international surfing websites.

Results:
928 surfers filled out the survey. The vast majority from Australia (59%) and the UK (36%).

79% of respondents reported ear problems since they began surfing. Of those surfers who reported ear pathology 64% reported exostoses, 55% reported ear infections, 6% reported ruptured tympanic membranes, 5% reported bruising/cuts/lacerations to the external ear.

45% (343 people) of surfers with problems had seen an ENT specialist and 128 had gone on to have surgery, thus of 928 surfers who filled out the questionnaire 14% had undergone an operation on their ears.

58% of respondents “never” wore ear plugs when surfing, only 20% “always” wore them.

Conclusions:
The majority of surfers who filled out the questionnaire had problems with their ears. The most common ear pathologies reported were exostoses, infections and perforation of the tympanic membrane.

It is difficult to establish a true incidence of ear pathology in surfers, however, this is the first large scale international study to work out what types of ear pathology surfers get, and in what proportions. Despite the perceived trouble with their ears most still show a resistance to routine use of ear plugs.

Keywords: Incidence, Ear Pathology, Surfers.

PO176 // OTOTOLOGY // Otology and facial nerve
The risk of structural changes and chronic otitis media in OME. Potential prognostic factors of clinical course
Zsuzsanna Csakanyi, Gabor Katona, Denes Konya, Ferenc Mohos, Istvan Sziklai (Hungary)
Heim Pal Children's Hospital

Background: 5-10% of OME cases may develop chronic otitis media with structural changes. The benefits of grommet insertion are controversial. We have shown that mastoid volumes of healthy and OME patients differ significantly. The mastoid developmental rate is very low in OME. Intractable cases have the smallest mastoid volume, at $\Delta V_{M} \geq 3$ ml.

Objective: To analyze middle ear gas pressure changes in normal and pathological conditions. To explore potential prognostic factors of unfavorable clinical course.

Methods: We used a mathematical model to predict the development of middle ear gas pressure balance as a function of different middle ear volumes (VME), considering normal and dysfunctional Eustachian tube. We applied published data as gas pressure input values and considered our 3D CT reconstruction data in healthy and pathological middle ears of children.

Results: The mathematical model predicts a dynamic pressure balance stabilizing at $\Delta P_{M} \approx 0.5$ mmHg pressure fluctuations in a VME of $\geq 3$ ml, compared to that of $\Delta P_{M} \approx 1.2$ mmHg in the VME of $\leq 3$ ml for perfect ET function. In the case of prolonged ET dysfunction, pressure fluctuations in a VME of $\leq 3$ ml can be $\pm 10$-30 times larger than those of VME of $\geq 3$ ml, which may facilitate structural changes.

Conclusion: In ears with reduced puffer capacity, duration of ET dysfunction determines the clinical course. Grommets can be beneficial for VME of $\leq 3$ ml and at younger ages. Prognosis is poor for VME of $\leq 3$ ml with increased age and more grommets in the child's history.

Keywords: children, chronic otitis media, Eustachian tube function, gas pressure balance, grommet, mastoid volume

PO177 // OTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

ENT Panendoscopy Audit
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Introduction: Panendoscopy allows thorough examination of the upper aerodigestive tract and traditionally includes pharyngolaryngoscopy, oesophagoscopy, bronchoscopy, neck and oropharynx exam. It is undertaken to exclude a synchronous tumour.

Aims: To determine current departmental practice and incidence of synchronous tumours.

Methods: Retrospective data collection from theatre logbooks and electronic operation records for a one year period from November 2011 to November 2012.

Results: Out of 122 cases recorded as panendoscopy, none had a bronchoscopy as part of their procedure. Removing bronchoscopy from the criteria, 31 were true panendoscopies. The rest were symptom directed endoscopy. Almost all cases underwent pharyngolaryngoscopy, but other parts of the traditional panendoscopy exam {oesophagoscopy/bronchoscopy/neck and oropharynx palpation} were not always documented. Approximately one third of panendoscopies were normal, with two thirds showing pathology.

No synchronous lesions were found. Most of the normal examinations had a pre-operative indication of dysphagia/global symptoms.

Conclusions: The majority of panendoscopies in the department are symptom directed to ensure low operative risk and cost effectiveness. No synchronous tumour was identified. Panendoscopy remains the gold standard when comprehensive inspection and biopsy is required but with the availability of flexible nasendoscopy and modern imaging a Focused Endoscopic examination is more appropriate.

Keywords: Panendoscopy

PO178 // OTOLOGY // Neuro-Otology and vestibular system

The Guy's Multidisciplinary Balance Clinic, a Novel Approach to the Management of Balance Disorders: A Patient Satisfaction Survey
Kiran Varadarajan, Robert Hone, Gareth Jones, Rachel Ritchie, Rahul Kangeoanka (United Kingdom)
Guy's and St.Thomas' NHS Trust

INTRODUCTION: The management of disorders of balance is complex, and patients often present to several specialties before an appropriate diagnosis and management plan are formulated. Guy's hospital offers a unique one-stop balance clinic. This involves initial assessment by a dedicated vestibular physiotherapist, full audovestibular testing in the majority of cases and subsequent multidisciplinary discussion with a Consultant ENT team. A consensus on diagnosis and treatment is used to formulate a management pathway. The purpose of this study was to assess the level of patient satisfaction and experience.

METHODS: Patient satisfaction was assessed using an 18-item questionnaire. Data was collected between 2008 to 2012. The booking process, clinic experience, quality of staff and overall opinion were scored.

RESULTS: 405 patients completed the questionnaire. Mean scores were as follows: (NB: 100% represents maximum satisfaction), Quality of Booking Process (62.6%), Clinic Experience (80.8%), Quality of Staff and Treatment (80.4%) and Overall Opinion (86.5%).

CONCLUSION: This service provides a novel approach to the management of dizzy patients with high patient satisfaction. The survey has highlighted deficiencies in the booking process, which requires auditing. High patient satisfaction is a key marker of good service quality, thus we would recommend this multidisciplinary model to other units.

Keywords: Dizziness, Balance, Vertigo, Clinic, Satisfaction

PO179 // OTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

The necessity of including level V in neck dissection for metastatic squamous cell carcinoma in head and neck of occult primary
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ST George's Hospital

Introduction: Occult head and neck metastatic squamous cell carcinoma (SCC) is treated initially with selective or radical neck dissection and, quite often, requires adjuvant post-operative radiotherapy. The incidence of level V neck disease is thought to be uncommon in occult head and neck metastatic SCC. Dissection of level V neck carries a potential risk of damage to the accessory nerve. We aimed to study the incidence of level V neck disease in patients with occult head and neck metastatic SCC and to identify the need to dissect level V neck in such cases.

Methods: Retrospective analysis of patients with occult head and neck metastatic SCC undergoing neck dissection at our tertiary referral cancer centre between 2006 and 2012. Specifically, the incidence of level V neck involvement was assessed.

Results: 25 patients (17 male, 8 female) were included in the study. The incidence of level V neck disease in these patients was 24%.

Conclusion: The results of the study suggest that level V neck should be routinely dissected in cases of occult head and neck metastatic SCC.

Keywords: squamous cell carcinoma, occult, unknown primary, neck dissection, level V

PO18 // OTOLOGY // Otology and facial nerve

Medical treatment of Eustachian Tube dysfunction in the chronic rhinosinusitis
Myroslav B.Kruk, Myroslav M.Kruk(jun.) (Ukraine)
Lviv national medical university

Results: 25 patients (17 male, 8 female) were included in the study. The incidence of level V neck disease in these patients was 24%.

Conclusion: The results of the study suggest that level V neck should be routinely dissected in cases of occult head and neck metastatic SCC.

Keywords: squamous cell carcinoma, occult, unknown primary, neck dissection, level V

PO18 // OTOLOGY // Otology and facial nerve

Medical treatment of Eustachian Tube dysfunction in the chronic rhinosinusitis
Myroslav B.Kruk, Myroslav M.Kruk(jun.) (Ukraine)
Lviv national medical university
Functional state of the Eustachian Tube (FSET) depends from anatomical structure, heredity, innervation, mucociliarius system of mucosa, tubal muscles function.

According to Ch. Bluestone, many factors is etiology of tubal dysfunction (TD) that is why need complex methods of diagnostic and treatment its diseases.

Object. Define of FSET in the chronic rhinosinusitis and treatment of chronic TD.

Methods. Investigation and treatment 121 adult patients with chronic rhinosinusitis (CRS), complicated tubal dysfunction [1-2st by Ch. Bluestone] and middle ear atelectasis.

Treatment of chronic TD with chronic rhinosinusitis consists with 2 group management: a) complex treatment CRS (antibioterapy with nonsteroid antinfammation and antileucotrien medicaments [montelukast], mucolytics and inducer interferon phytomedicaments [imupret, sinupret], dayly endonasal lavage with isotonic sea solution [aqua maris, humer] and nasale spray corticosteroid [mometazona furoate]); b) complex treatment of chronic TD: combined reflexotherapy according to classic methods (acupuncture, auriculopuncture), seanses hyperbaroxygenisation in pressure chambers, endonasal ultrason pulsaerosothapy with mucolitics and local corticosteroids, kinesthesitherapy for tubal muscles by R. Riu and mechanical and vibromassage tubal pharyngeal orifice with special devices.

Conclusion: rehabilitable functional state of Eustachian Tube received only in 56%-71% cases, in dependence of long-term of disease.

Keywords // Eustachian Tube, tubal dysfunction, rhinosinusitis, treatment

PO180 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

The use of gastrostomy procedures, PEG, in surgery of the larynx cancer
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Purpose: Analyzing the gastrostomy procedures performed in patients with total laryngectomy for cancer of the larynx, admitted to ENT Clinic "Coltea" Hospital, Bucharest, Romania.

Patients and methods: Our retrospective study contains 72 cases with surgery for larynx cancer between 2011 and 2012.

Results and discussions: The study group presents numerous specific characteristics (a larger number of cases aged over 55 than younger patients; elective use of percutaneous endoscopic gastrostomy techniques [PEG] and naso-gastric tube); In 36 cases was performed total laryngectomy with PEG before larynx surgery and in 36 cases was introduced naso-gastric tube after total laryngectomy. Conclusions: The value of prophylactic PEG in preventing the appearance of pharyngocutaneous fistulas.

Keywords // larynx cancer, gastrostomy, PEG, pharyngocutaneous fistula, total laryngectomy.

PO181 // OTOTOLOGY // Otology and facial nerve

Hyperbaric oxygen in the treatment of ear perichondritis
Fernando Laffitte Fernandes, Fernando Laffitte Fernandes, Milena Lavor, Ivan Senis Cardoso Macedo, Guilherme Machado de Carvalho, Alexandre Caixeta Guimarães, Alexandre Scalli Matthias Duarte, Jorge Rizzato Paschoal, Walter Adriano Bianchini, Arthur Menino Castilho, Agricito Nubiato C (Brazil)
UNIVERSIDADE ESTADUAL DE CAMPINAS

The perichondritis is a condition characterized by swelling, pain and purulent discharge from the external ear, which may progress to deformity of the pinna. The presence of comorbidities such as diabetes mellitus may aggravate the situation, leading to necrotizing malignant external otitis. The main etiological agent is Pseudomonas aeruginosa and treatment consists of antibiotics combined with surgical drainage of secretions. Hyperbaric oxygen therapy has proven beneficial as a complementary therapy of perichondritis in diabetic patients, working in the regeneration of intracellular free radicals. The purpose of this report is to describe the case of a diabetic patient with signs of perichondritis which was performed hyperbaric oxygen therapy, with favorable evolution of the case.
operation was performed within 3 weeks and after 3 weeks. Conclusion: As postoperative results of facial nerve decompression in traumatic temporal bone fracture can be excellent. And as surgeons can expect better outcomes with early diagnosis and lesser nerve damage, early surgical decompression should be carried out.

Keywords // Facial palsy, Decompression, Temporal bone, Trauma

PO185 // OTOTOLOGY // Cochlear and middle ear implants

MIXED HEARING LOSS TREATMENT IN CHRONIC SUPPURATIVE OTITIS MEDIA

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Chronic suppurrative otitis media (CSOM) leads to conductive and then mixed hearing loss with neurosensory component of various degrees. The lower are bone sound conduction thresholds, the worse will be functional result of subsequent tympanoplasty. Hearing correction with hearing aid is difficult in this case, because long-term wearing of earplugs results in exacerbation of inflammatory process. Delayed vibroplasty is made to patients with severe neurosensory component and seems to be the most effective according to subsequent auditory rehabilitation. More than 40% of patients operated for CSOM still have suppuration from the ear, according to the literature, so the one-stage mounting of expensive implant may not lead to expected functional result.

8 patients admitted to the surgical treatment of CSOM were observed. They had bone sound conduction thresholds in the region of low and high frequencies at the level of 33-55 and 75 dB, respectively. All patients underwent sanifying surgery on the middle ear, and then [in 6 months] vibroplasty (4 “w” of round window, 4 “w” of stapes). After connection of audio processor all patients achieved bone sound thresholds elevation by more than 30 dB. The results obtained allow us recommend delayed vibroplasty as second-stage surgery method for CSOM treatment in patients with pronounced neurosensory component of mixed hearing loss.

Keywords // chronic suppurrative otitis media, vibroplasty, mixed hearing loss

PO186 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Case report: Rare neuroblastoma in petrous part of temporal bone in 32 y. o. male

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Pauls Stradin Clinical University Hospital

Introduction.

Neuroblastoma is malignant solid tumor very rare in adults. We present 32 y. o. male with neuroblastoma of petrous apex of temporal bone.

Case presentation.

Patient presented to emergency room with facial nerve paresis on the left side, patient noted gradual hearing loss on affected side (left) in one year duration, tinnitus and vertigo. Inspection of external auditory canal revealed sullen upper part of auditory canal and extorted tympanic membrane. CT showed growth in petrous apex of temporal bone with bone distraction and clivus and inner ear involvement, substance in tympanic cavity, mastoid cells and external auditory canal. Histological findings in biopsy from tympanic cavity showed positive citokeratin expression and CD56, 5 “w” 100 protein. Patient underwent radiation therapy and has scheduled follow “w” up MRI in February.

Conclusion.

Although very rare, neuroblastoma must be considered in the differential diagnosis in temporal bone lesions and in cases of unknown origin facial nerve paresis and hearing loss.

Keywords // Neuroblastoma, temporal bone, radiation therapy

PO187 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Laryngeal leiomyosarcoma: an unusual case

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Laryngeal leiomyosarcoma: an unusual case

Leiomyosarcoma is a malignant tumour that is most usually in the uterus, esophagus and subcutaneous tissue. Leiomyosarcomas of the larynx are extremely rare. To date, almost thirty cases of this tumour in the larynx have been reported in the literature. Because of the rarity of tumours, there is a confusion regarding diagnosis and treatment.

Case report

Patient of 71-year-old man, who had experienced hoarseness. A smooth-surfaced bulging mass was found extending from right ventricular band to right true vocal cord, the vocal cord on the right side was almost fixed. Imaging studies, showed supraglottic tumor, with invasion to preepiglottic and paraventricular space without regional and distant metastases. A total laryngectomy and bilateral neck dissection was performed. Infiltration by smooth muscle fibers with high differentiation grade was observed. In immunohistochemical staining, the tumor was positive for vimentin and muscle actin, while it was negative for cytokeratin, and S-100 protein. Those features lead to the diagnosis of a leiomyosarcoma. Postoperative radiation was given. No recurrence has been found at 4 years after the surgery.

Conclusion

Histological diagnosis may be particularly difficult with conventional light microscopy. Immunohistochemical staining is essential for a definite diagnosis of leiomyosarcoma. Primary treatment should be surgical resection and continued close observation will be necessary.

Keywords // Laryngeal leiomyosarcoma

PO188 // OTOTOLOGY // Otology and facial nerve

Stapes Surgery in Sweden - Evaluation of a National Based register

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The “National Otosclerosis Surgery Register” is one of nine officially national registers for Ear Nose and Throat diseases in Sweden. Since 2004 surgical and audiological results are systematically collected from every ENT-Clinic reporting stapes surgery and fed into this register. This register is used as a tool for developing the quality of stapes surgery. The database comprises three documents and one questionnaire and results were fed into a computed based follow up-register, preoperatively and one year after surgery. Results of 1710 patients were evaluated from 24 out of 26 clinics. The most common surgical technique reported was stapedotomy (97 %) and a majority of the patients (65%) were out-patient. Over 93 % experienced an increasing hearing function and 92 % of the patients were satisfied with the preoperative counselling. Hearing sensitivity measured as PTA4 air conduction (AC) was improved > 20 dB in 67 % and bone conduction (BC) was improved or not worsened by more than 5 dB in 95 % of the patients. In 68% air-bone gap (ABG) were < 10 dB HL, while 96% were < 20 dB HL. An over-all low incidence of postoperative complications was reported.

Evaluation of results from “The National Otosclerosis Surgery Register” in Sweden, covering 80% of reported stapes surgery in Sweden, revealed that stapes surgery is a safe procedure with good hearing, low complication rates and a high rate of patient satisfaction.

Keywords // Otosclerosis, National Register

PO189 // OTOTOLOGY // Otology and facial nerve

Revision stapes surgery: Our experience in a tertiary center.

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INTRODUCTION

Surgical treatment for otosclerosis is highly satisfactory. However, near 20% of the patients may require at least one revision procedure overtime. Revision stapes surgery can be challenging for the otologic surgeon, as many different situations may occur.

OBJECTIVES

To analyze the causes of failure in our centre and their management. To establish preoperative prognosis factors and revision criteria based on our experience.

METHODS
Performed and polipoid tumor was removed completely. Microscopic side type II chordectomy. No residual tumor was found in specimen. No further the left vocal cord 7x3 mm in diameter with no propagation in adjacent tissue. Laryngomicroscopy was since one year ago. Fiberoptic examination showed tumor of the left vocal cord. A laryngomicroscopy with tumor excision was performed. Pathological examination revealed fusiform, polymorphic cells which were positive for vimentin, with weak expression of SMA and calponin. Diagnosis of LGMS was rendered. The patient underwent type V chordectomy and pathologist confirmed previous findings. All of the resection margins were negative and no vascular invasion was identified. No further treatment was given and the patient is disease free 1 year after resection of the tumor. Case 2. A 63-year-old woman was evaluated for increasing hoarseness and dyspnea since one year ago. Fiberoptic examination showed tumor of the left vocal cord which occupied two-thirds of the rima glotidis. Laryngomicroscopy was performed and polipoid tumor was removed completely. Microscopic examination revealed malignant mesenchimal tumor with osteoid formation. Diagnosis of osteosarcoma was confirmed. Multi-slice CT showed thickening of the left vocal cord 7x3 mm in diameter with no propagation in adjacent tissue. Enlarged lymph nodes in the neck were not found. The patient underwent left side type II chordectomy. No residual tumor was found in specimen. No further treatment was given and the patient is disease free 3 months after initial diagnosis.

Keywords: osteosarcoma, low-grade myofibroblastic sarcoma, larynx, surgery

PO191 // OTOLOGY // Cochlear and middle ear implants
First Italian experience with a transcutaneous bone conduction implant
Prof. Maurizio Barbara, P. Perotti, B. Giaio, L. Volpini, S. Monini (Italy)
Clinica Universitaria “Sant’Andrea”, Sapienza, Roma

Patients suffering from conductive or mixed hearing loss may receive insufficient or no benefit from conventional treatment options due to impaired sound transmission in the middle ear. In some cases like in high-grade microtia/atresia or in patients who underwent multiple revisions of middle ear surgeries, a surgical intervention may expose the patients to high risks of an additional hearing loss. Conventional bone conduction hearing aids or percutaneous bone anchored hearing aids may provide benefit. These devices may have multifold limitations and a transcutaneous bone conduction implant may overcome most of them. The Bonebridge® is the world first semi-implantable transcutaneous bone conduction hearing system for the treatment of conductive and mixed hearing losses as well as of single sided deafness.

Methods: 4 Italian-speaking adults with mixed hearing loss have been implanted with the Bonebridge (Vibrant MED-EL, Innsbruck, Austria) during this clinical investigation at 2 Italian clinics. Safety evaluation included pre- and postoperative bone conduction testing. Effectiveness evaluation included pre- and postoperative sound field testing.

Results: Evaluation of residual hearing revealed no significant decrease in bone conduction thresholds. No surgical complications were reported. No medical complications were found. Audiometric results showed a significant benefit in terms of aided thresholds. In the aided condition all patients reached 100% word recognition.

Keywords: Bonebridge; mixed hearing loss

PO190 // OTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Impact of betel nut chewing, cigarette smoking, and alcohol drinking on outcome of oral cancer: analysis of frequency, amount, and duration of consumption
Wang-Yu Su, William Wang-Yu Su (Taiwan)
Buddhist Tzu Chi General Hospital, Taipei branch

Purpose: Oral habits of betel nut chewing, cigarette smoking, or alcohol drinking are well established risks factors for carcinogenesis of oral cancer and the effects may persisted for years after treatment. We aim to retrospectively investigate the overall effects as well as frequency, amount, and duration of these habits on outcome of oral cancer in our cohort.

Method: Univariate and multivariate logistic models with further adjustment for factors, including age, sex, staging, treatment modality were computed. Kaplan-Meier analyses were performed for comparison of survival.

Result: Prior history of betel nut chewing in 55.5%, cigarette smoking in 92.3%, and alcohol drinking in 83.9% was identified in enrolled 295 cases. Staging was the most significant prognostic factor for survival (p

Keywords: betel nut, smoking, alcohol, oral cancer

PO193 // OTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Application of nonlinear acoustic analysis of voice in patients undergoing vertical partial laryngectomy: a case study
Renata Furia Sanchez, Josao Carlos Barauna Neto; Maria Eugenia Dajer; Lydia Cristina da Silva Teles (Brazil)
Programa de PÃ³s-Graduação Interunidades Bioengenharia - EESC/FMRP/USP (USP)

The objective of this study was to evaluate the applicability of the method of nonlinear acoustic analysis (ANL), with the technique of Vocal Dynamic Visual Patterns (VDPV) in the voice of a patient who underwent vertical partial laryngectomy. CASE REPORT: Male aged 61, complaining of hoarseness for three months, underwent biopsy with histopathologic diagnosis of laryngeal

Keywords: // osteosarcoma, low-grade myofibroblastic sarcoma, larynx, surgery

PO19 // OTOLOGY // Otology and facial nerve
A New Sutureless Facial Nerve Grafting Technique
Prof. Vijayendra Jh, Prof. Vijayendra Jh (India)
VIJAYENT CARE CENTRE

Purpose to achieve good Facial nerve functioning from grade VI to grade II - Method: since my centre is a referral centre for facial Nerve surgeries, I have a large series of iatrogenic facial Nerve paralysis. 127 cases operated since 1994 and the end results of improvement mainly depend upon how soon the surgery is performed. With my experience I have seen varieties of injuries, common site being second genu and beginning of the vertical segment. Unusual sites at the Stylomastoid foramen and Internal Auditory meatus. In 38% of cases Lateral semicircular canal has been damaged Technique: at present I get excellent results from grade VI to grade II if operated within 7 days from the day of injury. New technique I decompress the normal facial nerve about 2 cms both proximal and distal to the site of lesion, then incise the Epineurium and then identify the normal healthy perineurium, using Ophthamlic Micro Surgical knife slice the healthy perineural segment both proximally and distally, retain complete epinurium posteriorly for better vascularity and separate the sliced end of perineurium around 360 degree which enables to wrap the Temporals fascia between the cut end of facial nerve perineurium and greater auricular nerve graft bridge the gap between both healthy cut ends using Greater auricular nerve and ends are wrapped with temporals fascia graft (Cable grafting) Monthly follow up is for one year and end results should be accessed at the end of one year.

Keywords: // lesion site2nd genu, Ophthamlic Micro Surgical knife, suture less cable grafting

PO190 // OTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Low-grade myofibroblastic sarcoma and osteosarcoma of the larynx ** 2 case reports
Lana Kocav, Iva Topic, Zdenka Hutinec, Sven Seiwert, Mario Bilic (Croatia)
Department of Otorhinolaryngology, Head and Neck Surgery, University Hospital Center Zagreb

Low-grade myofibroblastic sarcoma (LGMS) and osteosarcoma are very rare tumors found in larynx. Case 1. A 82-year old woman presented with 2 years history of dysphonia. Fiberoptic examination showed polipoid lesion of the left vocal cord. A laryngomicroscopy with tumor excision was performed. Pathological examination revealed fusiform, polymorphic cells which were positive for vimentin, with weak expression of SMA and calponin. Diagnosis of LGMS was rendered. The patient underwent type V chordectomy and pathologist confirmed previous findings. All of the resection margins were negative and no vascular invasion was identified. No further treatment was given and the patient is disease free 1 year after resection of the tumor. Case 2. A 63-year-old woman was evaluated for increasing hoarseness and dyspnea since one year ago. Fiberoptic examination showed tumor of the left vocal cord which occupied two-thirds of the rima glottidis. Laryngomicroscopy was performed and polipoid tumor was removed completely. Microscopic examination revealed malignant mesenchimal tumor with osteoid formation. Diagnosis of osteosarcoma was confirmed. Multi-slice CT showed thickening of the left vocal cord 7x3 mm in diameter with no propagation in adjacent tissue. Enlarged lymph nodes in the neck were not found. The patient underwent left side type II chordectomy. No residual tumor was found in specimen. No further treatment was given and the patient is disease free 3 months after initial diagnosis.

Keywords: osteosarcoma, low-grade myofibroblastic sarcoma, larynx, surgery

PO19 // OTOLOGY // Cochlear and middle ear implants
First Italian experience with a transcutaneous bone conduction implant
Prof. Maurizio Barbara, P. Perotti, B. Giaio, L. Volpini, S. Monini (Italy)
Clinica Universitaria “Sant’Andrea”, Sapienza, Roma

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PO192 // OTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
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Wang-Yu Su, William Wang-Yu Su (Taiwan)
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PO193 // OTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Application of nonlinear acoustic analysis of voice in patients undergoing vertical partial laryngectomy: a case study
Renata Furia Sanchez, Josao Carlos Barauna Neto; Maria Eugenia Dajer; Lydia Cristina da Silva Teles (Brazil)
Programa de PÃ³s-Graduação Interunidades Bioengenharia - EESC/FMRP/USP (USP)

The objective of this study was to evaluate the applicability of the method of nonlinear acoustic analysis (ANL), with the technique of Vocal Dynamic Visual Patterns (VDPV) in the voice of a patient who underwent vertical partial laryngectomy. CASE REPORT: Male aged 61, complaining of hoarseness for three months, underwent biopsy with histopathologic diagnosis of laryngeal

Keywords: // osteosarcoma, low-grade myofibroblastic sarcoma, larynx, surgery
squamous cell carcinoma, stage T2N0M0, underwent corpectomy left (buccal margin + border + margin subglottic left arytenoid and vocal fold margin right) without surgical reconstruction and without adjunctive treatment of radiotherapy and chemotherapy. The main surgical sequel was dysphonia.

METHOD: The voice of patient, has undergone perceptual assessment of voice according to the parameters and classification criteria of the GRBAS scale and Nonlinear Acoustic Analysis by the method Visual Pattern Analysis of Dynamic Vocal (VDPV), using the MatLab A * 10.0 software for the computational routine. For the qualitative assessment of VDPV was considered three aspects of configuration: a) Number of loops (loops), b) Regularity of traces c) convergence of the traces. RESULTS: The respective values of results of the VDPV: number of loops (02), regularity (02) and convergence (01) of the traces and the results of G3R2B2A052 scale. CONCLUSION: The non-linear acoustic analysis by the method applied PVVD, proved effective in assessing the voice of this subject submitted to vertical partial laryngectomy.

Keywords: // Voice, Nonlinear Analysis, Voice Analysis, Vocal Dynamic Visual Pattern (VDPV), Laryngeal Cancer, Partial Vertical Laryngectomy.

PO194 // OTOLGY // Cochlear and middle ear implants

Audiologist
Anca MODAN, Dr. Marian STAMATE (Romania)
SC AUDIOLOGOS SRL

Recent technical performances of the cochlear implants allow the patients not only to orient themselves in the sound environment, but also to have an close to normal hearing life, including pursuing a career, social and cultural integration, music appreciation. We tested 10 CI Medel patients regarding the perceptive behaviour regarding music characteristics: timbre, rhythm and pitch (tonality). The cochlear implant systems for all the patients were fitted using the coding strategy FSP4. For testing the rhythm, we used 5 different patterns, that the patients were asked to imitate. For testing the timbre, the patients listened to music pieces interpreted by 4 different instruments, and they were asked to identify the right instrument (piano, guitar, trumpet and violin). For appreciating the capacity of the patients to discriminate the frequencial characteristics of the music – tonality – we presented them five combinations of two pure sounds. The sounds were at tone and semitone intervals. The patients were asked to say if the sounds are identical or different from the pitch point of view.

Results show so far that with the stimulation strategy FSP4 the patients have the chance to better perceive the characteristics of the music concerning tonality and timbre, in comparison with the older strategies that permitted only the hearing and imitating the rhythm patterns.

Keywords: // Music appreciation, coding strategy, cochlear implant

PO195 // OTOLGY // Audiology

Effectiveness of hyperbaric oxygen in the treatment of sudden idiopathic sensorineural hearing loss (preliminary results).

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Introduction: ISSNHL is considered an emergency medical condition with doubttable therapeutic approach. Due to its multifactorial etiopathology, various therapeutic agents have been proposed. The benefit of hyperbaric oxygen therapy (HBOT) has been reported in the medical literature but in Greece there are not any evaluated studies. Aim: This progressive randomized study aims to evaluate the effectiveness of simultaneous application of HBOT and steroid in the treatment of ISSNHL in patients of the Department of Otolaryngology in AHEPA.

Materials-methods: Patients with ISSNHL (onset within 7 days), divided into 2 groups. The 7 patients of the control group (initial average of hearing level was 76 dB) were treated with standard medical therapy (steroid and piracetam iv), followed by a HBOT. In the study group, 18 patients, with a study level (73dB) received at the same time treatment with conventional iv therapy and HBOT sessions. The hearing evaluation was made by a pure tone audiogram at 1st, 5th, 10th day after treatment started.

Results: Control group after therapy showed an average hearing gain of 32dB (final mean hearing level 44dB) and study group 35dB (final hearing level 38dB).

Modified criteria of Siegel was used to evaluate the rate of recovery.

Conclusion: Simultaneous application of HBO and steroid seems to improve hearing outcome in patients with ISSNHL.

More research is needed, in order to accept HBOT as a valuable adjunctive medical treatment in ISSNHL.

Keywords: // HYPERBARIC OXYGEN, IDIOPATHIC SUDDEN SENSORINEURAL HEARING LOSS

PO196 // OTOLGY // Neuro-otology and vestibular system

Vestibular Complications of Chronic Suppurative Otitis Media
Iulia Virgolicici, Elena Anghel, Adriana Filip (Romania)
Fonoaudiology Functional ENT Surgery Institute “Profesor Dr. Dorin Hociota”

Chronic suppurative otitis media represents the most common diagnosis in our department both adults and children. In the association with this diagnosis many patients presents complications, and one of the most common is vestibular complications (dizziness, vertigo).

Vestibular symptoms in chronic otitis media are present before treatment is received or postoperative, in early stages of the postoperative care, as well as advanced stages.

We conducted a retrospective study, on 346 patients with chronic otitis media with vestibular complications, during the ten years period 2002-2012. The aim of this study was to investigate the incidence and morbidity of vestibular complications due to chronic otitis.There had been selected patients cu ages between 16-77 years old. Vestibular investigations have been made in our department on Audiology and Vestibular Investigations and we looked for type, presence of spontaneous or positional nystagmus, balance and the type of balance pathology (proprioceptive, visual, vestibular or mixed). We looked for other local complications (peripheral facial paresis, type of hearing impairment) and for other pathologies important in the differential diagnostics (high blood pressure, cerebral circulatory insufficiency, diabetes).

The operator technique was mastoidectomy and tympanomastoidectomy and it had been made a correlation between the intraoperative aspects and the stages of the lesions and the remissions or the start of the vestibular symptoms.

Keywords: // chronic suppurative otitis media, nystagmus, vestibular

PO197 // OTOLGY // Audiology

The results of newborns hearing screening
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Tashkent Medical Academy

Background: The problem of hearing impairment in children is important both from medical and social point of view. Hearing loss in a child, in contrast to adults, results delay of the speech and mental development, variations in the formation of intelligence and personality in general.

Purpose: To implement newborn hearing screening.

Methods: The study is based on the analysis of 446 newborn hearing screening, examined on the basis of the maternity hospital of the 2nd clinic Tashkent Medical Academy. Were surveyed 220 boys (49.3%), 226 - girls (50.7%).

Questionnaire was created to detect the ante-, intra-, and postnatal risk factors for hearing loss.

Results: In 52 infants otoacoustic emissions had been registered and 20 boys (38.5%), girls - 27 (51.9%) was failed. In total 11.6% infants OAE was not recorded. Hearing loss was significantly more prevalent in preterm infants with a gestational age of 30 weeks or less, birth weight 1500 g or less. Newborns with a negative 3.8% OAE have less weight in 1500 gestational age less than 30 weeks was observed in 1.9% of cases, 15.4% children were born at term gestation less than 37 weeks. Gestational age of 40 weeks was observed in 15.4% of cases.

Conclusions: Implementation newborns hearing screening programs allow early detection and prevention of hearing loss in population level. OAE method is reliable enough and practically simple and can be used as a screening for hearing loss in newborns by family physicians in the community.

Keywords: // newborn, hearing impairment, otoacoustic emission, maternity hospital, gestational age

PO198 // OTOLGY // Oncology, head and neck, oral cavity, pharynx and trachea

Functional implications of radical neck dissection
Popescu Bogdan, Serban Vijor Gabriel Bertesteauan, Grigore Raluca, Cristian Radu Popescu (Romania)
Coltea Clinical Hospital
Background:
Radical neck dissection is a concept that has been presented in 1906 by GW Crile and suffered constant improvement. The oncological surgical procedure included the resection of the internal jugular vein, the sternocleidomastoid muscle, and the submandibular gland and the spinal accessory nerve. Deformities and impairment in the functionality of different regions of the neck and scapular regions have great implications on the quality of life of the patients that undergo such a procedure.

Materials and method:
Head and neck cancer patients that are submitted in the E.N.T. Department of Colteaa Clinical Hospital have a tendency of presenting to the specialist in late stages of the tumor process thus needing an extensive surgical procedure. Most of the patients are male (85%) that have a low social status, are heavy smokers, alcohol drinkers and have an altered nutritional status. Modifications to the radical neck dissection were made in the attempt to maintain the efficacy of the surgical oncology therapy and to assure as little functional impairment as possible.

Conclusions:
Radical neck dissection and modified neck dissection have demonstrated their efficacy in controlling tumor metastasis in head and neck region in patients with early stage cancer. The increased mortality and morbidity for patients in early stages when performing radical neck dissection lead us to use a more conservative neck dissection such as the modified neck dissection.

Keywords // neck dissection, quality of life, oncology management

PO199 // OTOTOLOGY // Otolgy and facial nerve
A rare case of chronic otitis media with cholesteatoma and fibrous dysplasia of temporal bone.
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Riga Stradins University, Pauls Stradins Clinical University Hospital

Introduction.
Fibrous dysplasia of the temporal bone in a connection with chronic otitis media is a extremely rare condition.

Clinical case.
We report a case of a 36 year old man with a chronic otitis media with cholesteatoma, fibrous dysplasia of temporal bone and postoperative facial nerve palsy on the right side. The patient was hospitalized with complaints of a headache, fever and a retroauricular painful swelling and redness of the retroauricular area, a head and a face on the right side, difficulty to open the mouth. CT and MR examination showed a fibrodyplastic changes of the right temporal bone, bone's destruction cavity, a huge round formation instead of the middle ear, infiltration of the soft tissues next to the temporomandibular joint and glandula parotis. The usual anatomy of the temporal bone, external ear canal and the middle ear was destroyed. The classical mastoidotomy was performed. During the operation a large cholesteatoma pocket was found. Unfortunately a right facial nerve palsy developped after the removal of the cholesteatoma sack. Residual effects after the recovery were facial nerve palsy, immobility of the right temporomandibular joint and asymmetry of the head.

Conclusions.
The aim of demonstration is to show a rare case of combination of the fibrous dysplasia of temporal bone and the chronic otitis media with cholesteatoma.

Keywords // chronic otitis media with cholesteatoma, fibrous dysplasia of temporal bone, facial nerve palsy

PO20 // OTOTOLOGY // Otolgy and facial nerve
Draining mastoid bowl
Chrobok Viktor, Cerny Michal (Czech republic)
University hospital

The goals of mastoid surgery for chronic otitis media are 1st elimination of disease to ensure a safe and dry ear, 2nd alteration of the anatomy of mastoid and middle ear to prevent recurrence of disease and 3rd reconstruction of hearing ( tympanosussuclolasty). Failure of the first two goals will result in recurrant cholesteatoma or suppuration.
The main topic of presentation will be draining mastoid bowl after canal wall down mastoiteotomy. The causes are inflammation within residual air cells, poorly exenterated mastoid air cells (tegmen, sinaldural angle, mastoid tip, facial recess and hypotympanum), presence of high facial ridge. The clinical anatomy will be demonstrated.

After unsuccessful conservative treatment the revision surgery with meatoplasty, canaplasty, exenteration of rest air cells, obliteration of mastoid bowl by periosteal pedicles and bone pate is recommended. Different technique are demonstrated.

Keywords // mastoid bowl, suppuration, obliteration

PO200 // OTOTOLOGY // Neuro-Otology and vestibular system
The Guy's Hospital Balance Clinic: A Multi-Disciplinary Approach
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Guys & St Thomas’ NHS Foundation Trust

Background: Balance and dizziness disorders are difficult to diagnose and traditional approaches lead to patients consulting multiple specialists before a diagnosis is made. This may cause a delay in treatment and increased psychological burden. The multi-disciplinary one-stop clinic consists of physiotherapists, audiologists and ENT Consultants who provide advanced methods of assessment and management. This allows for a comprehensive review of the patient’s medical problems and impairments through to the resulting activity and participation restrictions. Method: This study presents a unique allied-health profession led service where the patient’s medical history and assessment is performed by a vestibular physiotherapist and audiologist. The patient is then discussed at a multi-disciplinary team meeting. The diagnostic spread of patients attending this service is presented. Results: 1,756 patients attended between Feb 2008 and Dec 2012. Diagnosis include: Unilateral peripheral vestibulopathy (539), BPV (317), vertiginous migraine (243), multifactorial (163), central (143), otological (114), Meniere’s (66), psychogenic (56), systemic (42) and other (77). Conclusion: This service represents a significant shift in care delivery for those with balance and dizziness disorders. It appears to be a safe, efficient and effective pathway. The relative spread of diagnosis presented is similar to those found in other units and the authors would recommend this model to other tertiary units.</p>

Keywords // multi-disciplinary, vestibular, balance, clinic, diagnosis

PO201 // OTOTOLOGY // Otolgy and facial nerve
Intracranial Complication of Otitis Media
Marijan Kovacic, Milan Rudic, Zoran Kranjec, Ivica Nekic (Croatia)
General Hospital Zadar

Intracranial complication as a result of otogenic infection can be intratemporal, intracranial or both. They occur once the infectious or inflammatory process extends beyond the temporal bone requiring immediate and precise therapeutic intervention due to the potential morbidity and mortality. Most commonly reported intracranial complications are meningitis, intracranial abscess, lateral sinus thrombosis, subdural empyema, epidural abscess and oto hydrocephalus, with mortality rate as high as 16%. In the paper, we present a case of a 18 year old male patient admitted to the ENT Department due to the continuous otic drainage, facial nerve palsy (HB II-III), severe headache and vertiginous disorders. Radiologic examination (MSCT) showed abnormal collection in the right mastoid and middle ear cavity with erosion of the tegmen tympani and epidural collection, spreading towards the posterior part of the cavernous sinus. Patient underwent the intravenous broad-spectrum antibiotic treatment and surgical intervention ( mastoideotomy, drainage and placement of a ventilation tube). Postoperative period was uneventful. The antibiotic treatment was continued for the next six weeks. Six months following the surgery patient is free of any disease.

Keywords // otitis, intracranial, abscess

PO202 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Metastatic renal cell carcinoma to the nose: Two case reports
Marijan Kovacic, Milan Rudic, Ivica Nekic, Zoran Kranjec (Croatia)
General Hospital Zadar

Primary carcinoma of the paranasal sinuses presents 0.3% of all human cancers while renal cell carcinoma constitutes 3% of all adult malignant tumors. 
Metastatic disease to the nose and paranasal sinuses is extremely rare with the very poor overall prognosis. In the paper we report on two patients with metastatic renal cell carcinoma to the nose. First case was a 56 year old female patient presented at the ENT Department due to the episodes of recurrent epistaxis and continuous nasal obstruction. She was treated at the Department of Oncology due to the renal cell carcinoma. After thorough clinical (tumor mass protruding from the nasal cavity) and radiological evaluation tumor was removed. Pathologic findings showed metastatic renal cell carcinoma. Six months following the surgery patient died due to complications of the multi organ failure. Second case was a 60 year old male patient with the skin tumor of the nose (philtrum) spreading towards the nasal cavity and septal cartilage. Previously patient was treated at the Urology Department due to the malignant renal tumor. Under local anesthesia the skin tumor was removed following the primary reconstruction. Pathological findings were again consistent with the metastatic renal cell carcinoma. Three years following the procedures the patient is still free of any recurrent disease.

Keywords // renal cell carcinoma, metastases, nose and paranasal sinuses

PO203 // OTOTOLOGY // Otolgy and facial nerve
The evaluation of interoperation findings in patients with mesotympanitis.
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Moscow State Scientific Center of Otorhinolaryngology in the name of L.I.Sveriehevskiy of Health Care Department, Moscow, Russia (director ** prof. A.I.Kryukov)

Objective: the aim of study was to analyze interoperation findings (cholesteatoma (C) signs) in patients with mesotympanitis. Materials and methods: We performed 772 operations in cases with mesotympanitis from 2009 till 2012. 87 cases of them (12,3%) underwent tympanoplasty I-III types with or without atticcotomy depending on the following interoperation findings: limited trail or small cystic C. along with partial ossicular chain caries in tympanum. Results: We analyze the epidermis extention way into the middle ear cavities: wrapping perforation edges around malleus handle were found in 23 cases (30,2%); different ways of epidermis extention: wrapping around chorda tympana, descendint from it and perforation edges, malleus handle upon long incus process, incudostapedial articulation, stapes structures, following along facial nerve canal, over promontorium till eustachian tube ”’” in 29 cases (38,2%); total tympanum medial wall epidermisation - in 9 cases (11,8%) with co-occurring aditus and round window fibrosis in 4 of them; limited retraction pockets of eardrum posterior part ”’” in 6 cases (7,9%); epidermis extending from perforation edges into anterior parts of tympanum (eustachian tube, pr. cochleariformis) ”’” in 4 cases (5,3%); cystic C. behind the malleus handle ”’” in 5 cases (6,6%). Conclusion: our findigs're according to the main theories of C. pathogenesis and therefore it's important to perform detailed revision surgery in patients with mesotympanitis.

Keywords // cholesteatoma, mesotympanitis, chronic otitis media

PO204 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Incidental diagnosis of primary malignant melanoma of the Larynx: case report and literature review
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Otologyngology Department, Azienda Ospedaliera Santa Maria degli Angeli, Pordenone, Italy

A 62 years male was referred to ENT consultation for incidental diagnosis of a laryngeal mass during esofagastroscopy for chronic gastritis. The patient did not complain any laryngeal symptom but mild hoarseness. Endoscopy showed an irregular dark-blush mass of the left false vocal fold extending from the anterior commissure to the arytenoid, without impairment of laryngeal mobility. The CT scan verified the endoscopic findings and did not prove any cartilage erosion. The patient underwent endoscopic laryngeal disobstruction and the histological examination revealed a malignant melanoma. The stadiation with a PET scan showed multiple lung metastases and excluded other primary localizations as well as the ophthalmologic, endoscopic and dermoscopic evaluation did. Considering the stage and the airway patency, the patient did not underwent further surgical treatment but systemic chemotherapy followed by targeted therapy. A review of the literature of this rare mucosal melanoma is provided.

Keywords // Malignant melanoma, Head and Neck mucosal melanoma, Larynx

PO205 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Value of Narrow Band Imaging /NBI/ in the follow-up of patients with laryngeal and pharyngeal cancer treated by external beam radiotherapy (EBRT).
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Department of Otorhinolaryngology, Head and Neck Surgery, 1st Faculty of Medicine, Charles University, Faculty Hospital Motol, Prague, Czech Republic

Introduction: NBI is an optical technique that enables better detection of tumor localizations by identifying their pathological angiogenic pattern. It’s principle is based on the use of two narrow light bands centered at 415 and 540 nm that correspond to the peaks of light absorption of hemoglobin. These wavelengths enhance subtle capillary network and deeper lying sub epithelial vessels. The abnormal pattern of capillary architecture is typical for dyplastic superficial lesions. The detection of a tumorous lesion is much more difficult in patients previously treated by EBRT because of diffuse changes of micro vascular architecture due to the effects of radiotherapy.
Methods: 60 consecutive patients with suspicious superficial mucosal lesions have been evaluated by means of NBI. The aim of this prospective study was to evaluate the diagnostic significance of NBI, especially to compare the results with those obtained from previously untreated patients.
Results: Results of the study proved the value of the technology that approaches very similar results as in previously untreated patients.
Conclusion: NBI has a high value in the detection of early mucosal lesions of the UADT regarding its very high accuracy. Especially in outpatient settings the method is very helpful in the follow-up of cancer patients.
Acknowledgments: The research was supported by IGA MZ CR (grant No. 11544)

Keywords // NBI, tumor detection, radiotherapy

PO206 // OTOTOLOGY // Neuro-Otology and vestibular system
Vestibular system in patients after mild head trauma.
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Vertigo, dizziness and balance disturbances are common complaints in patients after mild head trauma. The aim of this study was to evaluate the complaints and type of vestibular system impairment in patients after head trauma.

Material and methods. The study was conducted on 36 consecutive patients with disequilibrium, after head trauma, diagnosed in ENT Department Medical University of Lodz. The control group comprised 40 healthy persons. In all subjects the otoneurological examination were performed. Complete routine VNG (Ulmer, Synapsys) tests was performed in all cases.

Results. In 5 patients benign paroxysmal positioning vertigo was diagnosed. From remaining 31 patients 58% reported momentary lost of consciousness, 42% vertigo,58% dizziness,45,2% headache, 12% unsteadiness, 16,1% memory problems. In 80,7% patients signs of vestibular system impairment were recorded. The central signs were observed in 45,2%, peripheral in 25,8% and both in 9,7% patients. Abnormal VNG outcome was significantly more often recorded in patients after head trauma in all tests. Detailed quantitative statistical analysis showed differences in some oculumotor tests parameters between posttraumatic patients and control group.

Conclusions. The study emphasized that VNG examination are able to detect vestibular dysfunction in most of the patients after mild head trauma and may justify so common complaints in this group.

Keywords // mild head trauma, vestibular disorders, vertigo, dizziness

PO207 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Masked mastoiditis is a known complication of otitis media with or without cholesteatoma. Typically it occurs in partially treated acute otitis media and it is more common in paediatric age group. A patient may present with low grade fever and malaise. They can also present with complications such as subperiosteal abscess, lateral sinus thrombosis, intracranial abscess and meningitis. High index of suspicion is required especially when a patient came with vague symptoms like fever and headache without otological symptom. Delayed in the diagnosis can cause fatal complication such as sepsis and death. We report a case of bacterial meningitis in a 68 year-old Chinese man who was presented to us with reduced conscious level for two weeks. Upon presentation, he denied otalgia, otorrhea or reduced hearing. Otoscopic examination revealed intact tympanic membrane bilaterally. Cerebrospinal fluid biochemistry shows evidence of bacterial meningitis and computed tomography scan (CT) of brain showed multifocal infarct with suspicious of right mastoiditis. Despite of broad spectrum antibiotic and anti tuberculosis medication, his condition worsening. An urgent high resolution CT of temporal bone showed right mastoid opacity. The left mastoid air cells are normal. He underwent uneventful cortical mastopectomy. He responds well after the surgery and was discharged home one week post operatively.

Keywords // meningitis, masked mastoiditis, mastoiditis
PO211 // OTOTOLOGY // Audiology

Risk factors associated with hearing loss in newborns
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Introduction: The aim of this study was to compare the frequency of hearing loss in newborns with and without risk factors, as well as to determine the incidence of particular risk factors.

Methods: The study, conducted from July 2007 to February 2009, comprised the hearing screening of 3011 newborns without and 98 newborns with risk factors for hearing loss. Screening procedures were performed by Transient Evoked Otoacoustic Emission (TEOAE) and Auditory Brainstem Response (ABR).

Results: In newborns without risk factors hearing loss was diagnosed in 0.07%, whereas in newborns with risk factors hearing loss was diagnosed in 2.04% cases. The most common risk factors for hearing loss were low Apgar scores at 1 or 5 min, ototoxic medications, congenital infections, hyperbilirubinemia and craniofacial abnormalities.

Conclusion: A statistically significant difference was found in the incidence of hearing loss in the group of newborns with risk factors. Both ABR and TEOAE are reliable tools for the hearing screening of newborns. High-risk newborns have to be rescreened during the first year of life because of the possibility of delayed or progressive hearing loss.

Keywords // risk factors, hearing loss, newborns

PO212 // OTOTOLOGY // Otology and facial nerve

Congenital cholesteatoma of the petrous apex “not” delayed diagnosis
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Objective: Congenital cholesteatomas are rare lesions of temporal bone. The clinical presentation of CC is not characteristic, which makes the difficulties to diagnose it properly. Patients: Three patients with CC. Interventions: Diagnostic and treatment. Main outcome measures. The analysis of cholesteatoma location and its basis, neurological and otological symptoms at admittance, presentation of the results of treatment, complication after treatment. Results: CC were located in the petrous apex with cochlear and vestibular erosion, and facial nerve exposure. Radical ear operation was performed in all cases. Clinical findings were variable, with the most common presentation being facial nerve palsy. Conclusions: CC of petrous apex has a nonspecific clinical presentation. CT imaging is a diagnostic tool, defines the extent of the lesions. Surgical treatment is needed in all cases.

Keywords // congenital cholesteatoma (CC), otological surgery, nonspecific symptoms

PO213 // OTOTOLOGY // Neuro-Otology and vestibular system

Trigeminal neuralgia due to neurovascular conflict with antero-inferior cerebellar artery “not” a case report

PO214 // OTOTOLOGY // Otology and facial nerve

Hearing outcomes following primary malleo-stapes ossiculoplasty in patients undergoing modified radical mastoidectomy
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Introduction: Treatment of cholesteatoma consists of either excision or exteriorisation of disease. Approaches have traditionally included a radical or modified radical mastoidectomy and combined approach tympanoplasty. Hearing thresholds following a modified radical mastoidectomy have been reported as poor. We assessed hearing outcomes in patients undergoing a primary malleo-stapes reconstruction combined with their open cavity surgery. Method: All patients undergoing open cavity mastoidectomy with primary malleo-stapidal ossiculoplasty from 2008 &ndash; 2012 were identified. Case notes were reviewed and demographic, recurrence rate and audiometry recorded. Results: Twenty patients were identified. The age range was from 8-61. There was no evidence of recurrence of cholesteatoma. The mean air-bone gap of the operated ear was as follows: 500Hz &ndash; 20.5dB, 1000Hz &ndash; 20.5dB, 2000Hz &ndash; 9.75dB, 4000Hz &ndash; 30.5dB. Conclusion: The improved hearing thresholds demonstrated in this cohort of patients supports the use of this form of ossiculoplasty in those undergoing open cavity procedures. This would also suggest that the subsequent use of hearing aids in these patients would require less amplification, less distortion and hence superior hearing outcomes. As hearing loss remains a significant concern following modified radical mastoidectomy we suggest an open cavity with primary malleo-stapidal reconstruction a viable alternative to modified radical mastoidectomy alone in selected cases.

Keywords // modified radical mastoidectomy, malleo-stapidal ossicular reconstruction

PO215 // ONCOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Neoadjuvant Chemoradiation in Squamous Cell Carcinoma of the Maxillary Sinus: a case report
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Introduction: Carcinomas of the paranasal sinuses are rare, representing 0.2%-0.8% of all cancer and 3%-5% of the malignant tumors in the head and neck region. The maxillary sinus is the most frequent origin of primary paranasal sinus malignancies. Management of patients with paranasal sinus carcinomas remains a great challenge. Squamous Cell Carcinoma of the Maxillary Sinus is the most common cancer of the maxillary sinus. The treatment with neoadjuvant
chemoradiation followed by radical surgery can provide aesthetics and functional benefits for this patient.

Case presentation

A 55-year-old Caucasian man presented with epistaxis and nasal obstruction that had been present for eight months, with the results of a magnetic resonance scan showing an expansive tumor in the left maxillary sinus, ethmoid sinus and nasal cavity. The results of a transnasal endoscopic biopsy were compatible with a squamous cell carcinoma. The patient had been submitted to a chemoradiation protocol and underwent a radical surgery and reconstruction of the orbit by floor with plates. The final histology results revealed squamous cell carcinoma of the maxillary sinus with orbital floor invasion.

Conclusions

This report details the diagnosis and management of a case of squamous cell carcinoma of the maxillary sinus, threatened by neoadjuvant chemoradiation and radical surgery. The multidisciplinary treatment was very important to the treatment and to the rehabilitation of this patient.

Keywords // Maxillary sinus, squamous cell carcinoma, chemoradiation

PO216 // OTOLARYNGOLOGY // Otolaryngology, head and neck, oral cavity, pharynx and trachea

Endoscopically assisted direct intratumoral embolization of juvenile nasopharyngeal angiofibroma.

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Object

Juvenile nasopharyngeal angiofibroma (JNA) is a rare benign tumor and characterized by high vascularization. In advanced JNA, surgical resection is challenging and multidisciplinary approach is essential. Although presurgical embolization has proven to be beneficial, this may be limited due to vessel tortuosity or small arterial feeders. The aim of this study was to describe usefulness of endoscopically assisted direct intratumoral embolization in advanced JNA.

Material and methods

Between 2006 and 2012, a series of 11 consecutive patients with advanced JNA was surgically treated after embolization. Endoscopic assistance was used for direct transnasal tumor puncture and embolization. Puncture and injection of embolic agent were carried with the use of 3D angiography navigation system.

Results

Depending on the angioarchitecture, embolization was performed with coils, particles, NBCA or ethanol. Late 3 cases were embolized with direct tumor puncture in conjunction with standard transarterial embolization. There were excellent infiltration of the tumor vasculature with obvious obliteration in direct punctured cases. Mean estimated blood loss in surgery was 3124 ml. Gross total resection was achieved in all cases.

Conclusion

Endoscopy assisted direct intratumoral embolization and the use of angiographical navigation system was safe and effective. This novel technique may enhance the ability to devascularize the tumor and improve the therapeutic outcome overall.

Keywords // Juvenile nasopharyngeal angiofibroma, Tumor embolization, Endoscope

PO217 // OTOLARYNGOLOGY // Audiology

NEURAL PLASTICITY IN HEARING DISORDERS: POSSIBILITIES FOR REHABILITATION

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In spite of progress in treatment of hearing and disorders remain. Drugs and surgical operations have been the main means for treatment of these disorders. Promotion of expression of neural plasticity for the purpose of correcting abnormal function and for compensating for lost functions (e.g. vestibular deficit), have not been fully utilized in treatment of neurological disorders, and its capacity has been grossly underestimated. The fact that induction of neural plasticity can reverse or correct certain pathologic conditions of the nervous system means that induction of neural plasticity is a valuable addition to the medical arsenal of treatments.

We analyzed the results of surgical treatment in seven patients with combined (both conductive and sensory) hearing loss. In seven patients we found hearing improvement not only for decreasing conductive component but also sensory one. It should be noted that the improvement had been coming for period of three month. It could not be explained by restoration of transformational mechanisms in middle and inner ear only. It is doubtful that hearing improvement was the result of normalization the fluid system of the cochlea only as well. We assume that the expression of neural plasticity could explain the observed changes. So, there appear to be sufficient reasons for research of rehabilitation possibilities of hearing disorders by managing of brain's plastic potential. Different methods of brain stimulation or drugs could be used.

Keywords // NEURAL PLASTICITY, HEARING DISORDERS

PO218 // OTOLARYNGOLOGY // Neuro-Otolaryngology and vestibular system

The Guy’s Hospital Balance Clinic: A Multi-Disciplinary Approach

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Background: Balance and dizziness disorders are difficult to diagnose and traditional approaches lead to patients consulting multiple specialists before a diagnosis is made. This may cause a delay in treatment and increased psychological burden. The multi-disciplinary one-stop clinic consists of physiotherapists, audiologists and ENT Consultants who provide advanced methods of assessment and management. This allows for a comprehensive review of the patient’s medical problems and impairments through to the resulting activity and participation restrictions.

Method: This study presents a unique allied-health profession led service where the patient’s history and assessment is performed by a vestibular physiotherapist and audiologist. The patient is then discussed at a multi-disciplinary team meeting. The diagnostic spread of patients attending this service is presented.

Results: 1,756 patients attended between Feb 2008 and Jan 2013. Diagnosis include: Unilateral peripheral vestibulopathy (535), BPPV (317), vertiginous migraine (243), multifactorial (163), central (143), otological (114), Meniere’s (66), psychogenic (56), systemic (42) and other (77).

Conclusion: This service represents a significant shift in care delivery for those with balance and dizziness disorders. It appears to be a safe, efficient and effective pathway. The relative spread of diagnosis presented is similar to those found in other units and the authors would recommend this model to other tertiary units.

Keywords // multi-disciplinary, vestibular, balance, clinic, diagnosis

PO219 // OTOLARYNGOLOGY // Neuro-Otolaryngology and vestibular system

THE ROLE OF LIFESTYLE MODIFICATIONS IN THE MANAGEMENT OF MIGREN ASSOCIATED VERTIGO

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Migraine with or without aura is one of a major cause of primary headache disorders. However, migraine is becoming more frequently cause of vertigo. Most of patients with migraine associated vertigo often have no headache. Their main symptom is vertigo. We analyzed medical records of 23 patients with migraine associated vertigo retrospectively. In the management of vertigo, lifestyle modifications that include limitation of the possible triggering factors such as diet, sleep problems, stress, physical activity, and other factors associated with migraine were determined for therapy.

Keywords // Vertigo, Migrain associated vertigo, Lifestyle modifications, Vestibular system

PO22 // OTOLARYNGOLOGY // Otolaryngology, head and neck, oral cavity, pharynx and trachea
Colon Adenocarcinoma Metastatic to the Larynx Presenting as Acute Airway Obstruction: A Case Report and Discussion of Treatment Controversies
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Metastasis of colorectal adenocarcinoma to the larynx is rare. Only 14 previous cases have been described. An 85-year-old female presented with a two-day history of increasing dyspnoea and stridor. Past medical history was significant for a Duke’s B T4 N0 adenocarcinoma of the transverse colon, for which she had undergone a right hemicolectomy six months previously. She was diaphoretic, distressed and stridulous. Fibre-optic laryngoscopy demonstrated an obstructing mass arising from the right larynx. She was able to tolerate CT, which confirmed a tumour arising from the right aryepiglottic fold and pyriform fossa, extending into the arytenoid, posterior commissure, and false cord. A solitary pathological neck node was identified in right level II. She was taken to the operating theatre, where a tracheostomy under local anaesthesia was performed. Biopsies of the mass were taken. The patient was recovered without complication. Histopathology demonstrated a poorly differentiated adenocarcinoma with immunohistochemical markers consistent with metastatic disease arising from colon. The majority of patients presenting with colorectal adenocarcinoma metastatic to the larynx have disseminated metastatic disease and a poor prognosis. Our patient had no evidence of other distant metastases. A discussion of the ethical and clinical controversy surrounding laryngectomy metastastectomy is presented. The patient in this case declined surgical treatment.

Keywords // larynx, cancer, adenocarcinoma, metastases, colon, airway obstruction

PO220 // OTOLGY // Otolaryngology, head and neck, oral cavity, pharynx and trachea

Medullary thyroid cancer (MTC): results of tailored treatment
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MTC (5% of all thyroid cancers) is mainly treated by surgery. Follow-up lead on calcitonin and carciinomembranic antigen (CEA) for some patients (PTS), for localization of occult recurrences, MRI and PET CT have progressed and afforded to treat patients more selectively.
54 consecutive PTS treated for MTC. Treatment results analysis, complications, prognostic factors (T/NM/Stage (St),calcitonin,CEA) recurrences and survival. PTS had a total thyroidectomy and central neck node dissection + lateral if suspicious nodes. Postop. external radiation applied after incomplete resection or lymph node involvement.
Median age:54.5 yrs. Stage distribution:St II:6; St II:16; St III:26; St IV: 4; unknown:2. Total thyroidectomy = 53 PTS; lymph node dissections = 42 PTS; 10 PTS = postop complications.
26 deaths:11 due to MTC, 6 other causes, 9 unknown cause. Median F.U. for PTS alive:12.3 yrs. Overall survival at 5 and 10 yrs were 74% and 55% respectively. Predictive factors for worse survival were: ST>II (HR=3.10), lymph node invasion (HR=9.28), postop external radiation (HR=5.23). Ten PTS normalized calcitonin are alive NED, 38 PTS with persistently elevated calcitonin/worse survival (logrank=p=0.02), but 21/38 PTS survived for long periods (median 12.4 yrs); in 5/21 PTS, PET and MRI localized tumoral tissue, 2/5 PTS salvaged by surgery. Elevated calcitonin levels after treatment signed persistent disease but PTS survived for long periods with careful monitoring and adapted treatment.

Keywords // medullary thyroid cancer surgery

PO221 // OTOLGY // Otolaryngology, head and neck, oral cavity, pharynx and trachea

Facial paralysis and petrous bone cholesteatoma.
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Petrous bone cholesteatoma (PBC) is a rare pathology that grows slowly and is often asymptomatic. A high clinical suspect is recommended for its diagnosis. Congenital and acquired aetiologies are described in the pathology of PBC.

According to Sanna’s classification, PBC is subdivided into five classes in relation to the labyrinth to facilitate surgical planning and management. With improvement of surgical approaches and radiologic imaging, the attitude in management of PBC has been changed with a high percentage of safety to assure radical removal of the pathology.
We present a case of a congenital cholesteatoma arising from geniculate ganglion, a 50-year-old man with 2 year history of slowly progressive peripheral paralysis of the left facial nerve HB III, facial paresis, tinnitus, and severe SNHL with intact tympanic membrane and no history of chronic infection of the middle ear.
The image studies revealed a non enhancing expansile mass within de geniculate ganglion area, with little extension into de basal turn of the cochlea through the infralabyrinthine route.
The cholesteatoma was removed by the middle fossa approach, intact facial nerve was preserved, postoperative recovery was free from complication.
The ideal surgical approach of this type of lesion must provide an adequately wide route for its extirpation and safe control of the adjacent structures. Hearing preservation is secondary in respect to radical removal of the pathology.

Keywords // Facial paralysis, Congenital cholesteatoma

PO222 // OTOLGY // Otolaryngology and facial nerve
Diode laser-assisted tymanomastoidectomy for mucosal chronic suppurrative otitis media
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Introduction: The principal aims of surgery for mucosal chronic suppurrative otitis media (CSOM) are to eradicate all pathologic mucous membrane tissue and osteitis and to create a well-aerated middle ear. Although ancillary use of laser in surgery for cholesteatomatous CSOM can enhance removal of disease, its role in mucosal CSOM has yet to be explored. Diode laser-assisted tymanomastoidectomy is the practice of the senior author and we sought to evaluate outcomes.
Methods: Patients undergoing primary laser-assisted tymanomastoidectomy for mucosal CSOM were identified retrospectively. Hospital records were reviewed for demographics; operative technique; additional procedures; and surgical and audiometric outcomes.
Results: 38 ears (37 patients) were included. 60.7% of procedures were daycase, with 100% discharged within 24 hours. Temporalis fascia grafts were used to repair perforations in all cases. There were no major complications. Minor complications included transient vertigo (n=3) and temporary facial nerve palsy (n=1). Ossiculoplasty was performed in 49.2% and a grommet inserted in 60.7%.
A dry ear and successful perforation closure was achieved in 100% of cases with no requirement for revision surgery. Mean follow-up was 18 months. A post-operative 4 frequency air-bone gap of ≤30dB was achieved in 64.3% of cases.
Conclusion: Our early results suggest that use of the diode laser is a safe and efficacious adjunct to tymanomastoid surgery to eradicate mucosal CSOM.

Keywords // Ear Canal/surgery; Laser Therapy; Otitis Media/surgery; Otolaryngologic Surgical Procedures/methods; Treatment Outcome

PO223 // OTOLGY // Otolaryngology, head and neck, oral cavity, pharynx and trachea
Is it necessary to perform hemithyroidectomy as a part of total laryngectomy? A retrospective review.
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Background: Extensive laryngeal cancer surgery includes an ipsilateral thyroid lobectomy, however this approach is now debated with new evidence to suggest that the extent and indication for thyroid removal should depend on the position of the laryngeal tumour. This study reviews the histological incidence of thyroid disease (benign and malignant) in total laryngectomy.
Method: All patients who underwent total laryngectomy in UHW from December 2004 to May 2012 were included and their histology report reviewed for thyroid disease.
The CANISC database for laryngeal and thyroid cancer was reviewed between 01/01/2000-12/06/2012 to look for thyroid and laryngeal carcinoma in the same patient.
Results: 54 patients underwent a total laryngectomy. 50 histology reports were included in the study. 84% (42/50) had no histological evidence of disease. Direct extension of squamous cell carcinoma was seen in 6% (3/50). 4 patients had incidental finding of other thyroid pathology including papillary carcinoma. 136 laryngeal and 70 thyroid cancer patients were reviewed using the CANISC database with no evidence of both thyroid and laryngeal carcinoma in the same patient.

Conclusion: Although rare, direct extension of laryngeal carcinoma is seen in the thyroid gland. The anatomical position of the laryngeal tumour in these cases will be discussed in the presentation to assess the feasibility of selecting patients who require ipsilateral thyroid lobectomy as a part of total laryngectomy.

Keywords: Laryngectomy, thyroidectomy

PO224 // OTOLARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

C-reactive protein and coagulation studies in secondary post-tonsillectomy haemorrhage - need for routine testing?

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Objective: To establish the volume of patients presenting with post tonsillectomy haemorrhage (PTH) to the Emergency Department (ED) and undergoing CRP (CRP) testing and/or coagulation screening testing to determine the clinical value of these investigations, in order to provide recommendations for their continued use.

Method: A retrospective case note study was conducted (1st March 2009 – 31st October 2012) examining patients presenting to the ED at the Southampton General Hospital with secondary PTH. Demographic data was collected together with admission duration, blood tests requested and management of clinical cases including the need for definitive surgical control of haemorrhage.

Results: 93 patients (39 males, 54 females) were included in the study. 75 patients (81%) underwent CRP testing with 66 (71%) undergoing coagulation testing. The mean value of all INR and APTT tests were within normal limits. The mean value for CRP testing was 27.7. Clotting studies and CRP testing had no statistical impact on requirements for surgery (p>0.05).

Conclusion: The clinical value of CRP and coagulation studies remains to be seen within our results. We suggest that routine CRP and coagulation studies should not be performed on PTH patients because it does not change patient management and is unlikely to diagnose an underlying coagulopathy. If bleeding disorders are suspected clotting factors are a more appropriate investigation after discussion with a haematologist.

Keywords: C-reactive protein, Coagulation, Post tonsillectomy haemorrhage, Management, Emergency, Cost

PO225 // OTOLARYNGOLOGY // Otolaryngology and facial nerve

The complications of purulent otitis media during a 2005-2010 study

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Purulent otitis media (POM), both acute and chronic forms, may be associated with various complications, intra, extracranial or both. The rate and type of the complications depend on the type of the causing pathogens, the therapy used, the body resistance and the existing communications between various structures. The granulation tissue formation may block the drainage from the middle ear, thus impeding the air entering in it. This in turn, is favourable for the occurrence of the complications. It is reported that, apart from the meningitis in children, the majority of complications is met in the subacute or chronic forms of POM.

The study covers the period 200-2010 in the University Hospital Centre of Tirana. 740 cases of POM were included in the study, from which 79 had one or more complications. The average age of the patients with complications was 28.9 yo, mostly males. The mortality rate was 3%

To conclude, there is still a considerable rate of complications due to POM, more as a result of a chronic purulent otitis media. These complications were predominant in young age, and 5% of cases had more than one complication. The intracranial complications had a higher mortality rate (18.8% of cases).

Keywords: acute otitis media, chronic otitis media, facial nerve, extracranial complication

PO226 // OTOLARYNGOLOGY // Otolaryngology and facial nerve

RESPIRATORY EPITHELIAL ADENOMATOID HAMARTOMA (REAH) OF THE NASAL CAVITY

INTRODUCTION: Respiratory Epithelial Adenomatoid Hamartoma(REAH) is an uncommon lesion of the upper aerodigestive tract, first described in 1995 as prominent glandular proliferations lined by ciliated respiratory epithelium originating from the surface epithelium.

CASE REPORT: A 68-year-old woman presented with nasal obstruction for the last 3 months. Endoscopy of the nose revealed a polypoid mass obstructing the right nasal cavity. Computed tomography showed an enhancing soft tissue mass in the anterior right nasal cavity with neither destructive bone changes of the sinus nor intracranial extension. Under general anesthesia FESS was performed and tissue samples were sent for histopathological examination, which revealed REAH.

DISCUSSION: REAH is a benign lesion predominantly affecting men in the third to ninth decades of life. Presenting symptoms are non-specific, including nasal obstruction, epistaxis, rhinorrhea, hyposmia, facial pain. The most common site of occurrence is the nasal septum. Radiologically findings include opacification of the affected sinus with connection to the nasal septum. REAH etiology is unclear and the definitive treatment is a simple surgical excision.

CONCLUSION: REAH is a new pathological diagnosis. ENT doctors should be aware of this rare entity in order to avoid overdagnosis and unnecessary aggressive surgery which may result in inadequate treatment.

Keywords: Respiratory epithelial adenomatoid hamartoma, Nasal cavity
Conclusion: gastroesophageal reflux was identified in 74% of total laryngectomized, with the pH differences of variables in individuals without reflux or reflux medication used or not.

Keywords // Laryngectomy; Gastroesophageal Reflux; Speech, Alaryngeal

PO228 // OTOLARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

ATYPICAL CARCINOID OF EPIGLOTTIS
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GNA GNENIMATAS

Introduction: Neuroendocrine tumours (NETs) are quite uncommon with their incidence varying between 0,5%-2%. They are mainly located in the gastrointestinal (70%) and the respiratory tract (25%). NETs of the larynx are considered rare, representing only 1% of laryngeal malignancies.

Case Report: A 59-year-old male presented complaining for foreign body sensation in the throat and swallowing difficulties during the last year. The patient did not report hoarseness, fatigue or weight loss. Laryngeal endoscopy revealed a large mass of the right laryngeal surface of the epiglottis. The vocal cord mobility was normal. The examination of the neck showed palpable lymphadenopathy on the right anterior cervical region. Under general anesthesia, microsurgery was performed and biopsies were taken. Histopathology revealed an atypical carcinoid G2 of epiglottis (Ki 67,4%). A CO2 laser resection of the tumour was performed, excising the lesion with clear margins and a radical right neck dissection followed. Fourteen months later the patient is disease free.

Discussion: NETs require an accurate diagnosis because of their varied clinical behavior and prognosis. Although they are rare, high clinical suspicion and early diagnosis are crucial for a positive outcome. Because of their rarity, there are not enough case series with long-term follow-up in order to understand the nature of this tumour, clarify the prognosis and tailor therapeutic interventions other than excision.

Keywords // ATYPICAL CARCINOID EPITHELIAL

PO229 // OTOLARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

INFLUENCE OF RADIOThERAPY IN LARYNGECTOMES WITH ACID Reflux
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Objectives: evaluate the influence of radiotherapy on the incidence of gastroesophageal reflux acid in total laryngectomized with tracheoesophageal prosthesis users.

Methods: recruited 31 patients who underwent total laryngectomy for squamous cell carcinoma, regardless of gender, and rehabilitated with tracheoesophageal voice to vocal production, using the tracheoesophageal prosthesis. All subjects underwent 24-hour esophageal pH monitoring to evaluating variables reflux 20cm and 5cm above the lower esophageal sphincter and index DeMeester score. Before the examination of pH monitoring, patients were instructed to discontinue the medication for a week.

Results: it was found no difference was observed in the variables of pH monitoring, both in the distal esophagus and proximal to the laryngectomies evaluated, regardless of radiotherapy, except that individuals undergoing radiotherapy have decreased esophageal clearance, 3.2 min / reflux, compared those laryngectomies who did not received radiotherapy treatment, which showed 2min/reflux of esophageal clearance (p > 0.05).

Conclusion: the laryngectomies total undergoing radiotherapy showed esophageal clearance decreased when compared with individuals who were not exposed to radiation.

Keywords // Laryngectomy; Gastroesophageal Reflux; Speech, Alaryngeal; Radiotherapy

PO23 // OTOLARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Diode laser surgery in larynx cancer
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In ENT Department of I.P. Pavlov State Medical University (St Petersburg, Russia) a diode laser (Russia, 810 nm, 7W) has been used for 25 years for transoral larynx resection in cancer treatment. Diode laser is small, portable, simple to use, inexpensive. T1 and T2 laryngeal cancer can be radically removed by laser endoscopically. According to our experience T3 neoplasms could be successfully treated by laser in cases without invasion into thyroid perichondrium, preepiglottic space, spread of the tumor downwards to m. cricothyroidea. Laser surgery preserves natural airway and voice function. Between 2000 and 2012 95 patients with untreated laryngeal carcinomas T1 ** 33 patients, T2 ** 49, T3 ** 13 underwent endoscopic laser surgery with diode laser (72 males, 23 females aged 23-84 years). Supraglottic cancer was diagnosed in 7 patients, glottic cancer in 85, subglottic ** in 3. Nobody required tracheostomy or feeding tube in postop period. We performed type 2 cordectomy in 26 cases, a type 3 ** in 4 cases, type 4 ** in 8 cases, type 5 ** in 38 cases. Follow-up period ranged from 6 months to 10 years. We could not control the results of treatment in 9 cases. There were 9 local recurrences: in 5 patients with T3, and 4 patients with T2. Repeated laser surgery was performed in 5 cases, laryngectomy - in 4 cases. 4 patients died because of metastatic disease. 71 patients are alive, disease-free with preserved larynx, 80 patients are alive and disease-free.

Keywords // Diode laser, larynx cancer, endoscopic resection

PO230 // OTOLARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

INFLUENCE OF ACID REFLUX IN THE LIFETIME OF THE TRACHEOESOPHAGEAL PROSTHESIS IN LARYNGECTOMES
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Objective: evaluate and compare the lifetime of tracheoesophageal prosthesis in laryngectomized, who had and don’t had gastroesophageal reflux.

Methods: thirty-one total laryngectomized with tracheoesophageal speech rehabilitated for vocal production, using a tracheoesophageal prosthesis, underwent 24 hours esophageal pH monitoring, evaluating variables reflux 20cm and 5cm above the lower esophageal sphincter. For analysis, the laryngectomies were divided into three groups: eight subjects without reflux; nine, gastroesophageal reflux and not used proton pump inhibitor and 14 laryngectomized patients with reflux and used proton pump inhibitor. A review of medical records provided information about lifetime of prosthesis.

Results: the prosthesis showed lifetime average of 22 in laryngectomized without reflux greater than in subjects with reflux (0.005), showing lifetime of the prosthesis for 12 months who were not receiving proton pump inhibitor and nine months to subjects that using proton pump inhibitor. When correlate the lifetime of the prosthesis in months with pH was observed that the closer were the normal values of the variables of pH to 5cm lower esophageal sphincter, the greater the durability of the prosthesis.

Conclusion: the laryngectomies without reflux present lifetime of tracheoesophageal prosthesis higher to individuals who have demonstrated reflux on pH monitoring. Correlation was found between the severity of reflux and decrease the lifetime of the prosthesis.

Keywords // Laryngectomy; Gastroesophageal Reflux; Speech, Alaryngeal

PO231 // OTOLARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

VOCAL PARAMETERS AND AMPLITUDE OF INTRALUMINAL ESOPHAGEAL AND PHARYNGOESOPHAGAL SEGMENT PRESSURE IN TOTAL LARYNGECTOMES
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Objective: to correlate maximum phonation time, vocal intensity and dynamic extension with intraluminal esophageal and pharyngoesophageal segment pressure during tracheoesophageal phonation.

Keywords // Vocal parameters, intraluminal pressure, maximum phonation time
Methods: The study was conducted on 20 total laryngectomees with alaryngeal
speech and with secondary insertion of a tracheoesophageal prosthesis who
were submitted to acoustic immittance recordings of maximum phonation time and vocal
intensity (minimum, habitual and maximum). The subjects were then submitted
to manometry for the determination of the amplitude of intraluminal esophageal
(proximal, middle and distal) and pharyngeoesophageal segment
pressure during phonation.

Results: A significant positive correlation was detected between habitual vocal
intensity and the middle (0.004) and distal (0.05) esophagus, in addition to a
correlation of maximum intensity with the middle esophageal portion (0.03).
Dynamic extension showed correlation with the amplitude of esophageal pressure.
There was no significant correlation between the variables studied
and pressure of the pharyngeoesophageal segment, or between maximum phonation time and esophageal pressure amplitude.

Conclusions: The middle and distal regions of the esophagus were found to be
compliant, permitting an adjustment of vocal intensity. There was no correlation
between maximum phonation time and the amplitude of esophageal and
pharyngeoesophageal segment pressure.

Keywords // Laryngectomy; Manometry; Speech, Alaryngeal

PO232 // OTOTOLOGY // Audiology
Analysis of the evoked auditory brainstem response by air and bone conduction in children with agenesis of the external auditory canal
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The evoked auditory brainstem potential by specific frequency (PEATE-FE)
enables the differential diagnosis in the assessment of children younger than
twelve months old with external and/or middle ear malformation, either in
the conductive alterations, mixed and sensorineural through the use of stimulus by
bone and the auditory profile characterization by the application of stimulus
with specificity of frequency. Compare get results in the PEATE-FE tests by air
(AC) and by bone (BC) in children younger than twelve months, with external ear
canal agenesis (CAE). We had researched the realization of the PEATE-FE for AC
and BC at the frequencies of 500Hz and 2000Hz in 2 4 children, and 17 male , from
one to 12 months of age with agenesis of the CAE. The PEATE-FE research by
bone is an important tool to assess cochlear integrity in children with agenesis
of CAE younger than 12 months old.

Keywords // evoked auditory brainstem response; Loss of conductive hearing; Bone conduction; Congenital abnormality; External ear; Child.

PO233 // OTOTOLOGY // Otolaryngology
Jugular glomus tumor-clinical case
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Introduction: Glomus tumors are very rare and sometimes diagnostic might be
tricky. Surgical treatment is the choice, but surgical procedure is difficult
because of vascular involvement.

Material and Methods: We present a clinical case of a 68 years old female,
presenting with tinnitus, hearing loss, pulsations in left ear, for 5 years, and a
neck laryngocervical tumor, on the left side. CT scan and angiorraphy revealed a
tumor of 5/3 cm, with arterial vessels from common carotid artery, external and
internal carotid artery on the left side. Left tympanic membrane is bulging, violet
and with movements synchronous with heart rithm. Surgical procedure
involved the laryngocervical mass, together with mastoid approach. It was a
delicate procedure because of the massive bleeding.

Results: Pathology result for the laryngocervical tumor was parangangioma;
clinical evolution was good, without neurologic impairment.

Conclusions: The jugular glomus tumor is a rare pathology of the head and neck,
but the surgical approach followed by radiotherapy is the choice. Major
difficulties regarding vascular and nerve involvement should be considered.

Keywords // jugular glomus tumor, parangangioma, bleeding

PO234 // OTOTOLOGY // Audiology
Audiological findings in individuals with genetics hearing loss nonsyndromic
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Report the audiological findings of individuals with hearing loss hereditary non-
syndromic, confirmed through molecular test of 35delG mutation of connexin 26.
It was studied eight individuals, four cases of siblings, five males and three
females, with four to 13 years old, from the Serviço de Fonoaudiologia do
Hospital Nossa Senhora da Conceição Porto Alegre, which realized
otokinolaringology evaluation, pure tone audiometry (PTA), acoustic
impedance measurements of the 35delG mutation of connexin 26. For
the audiometric findings showed hearing loss and sensorineural bilateral in all cases,
25% moderate, 50% severe and 25% from deep. In acoustic impedance
measurements cases demonstrated tympanometry type A without acoustic reflex. Audoiliogic findings of subjects showed bilateral sensorineural hearing
loss of moderate to pro found and type A. tympanometry acoustic reflexes
absent. The 35delG mutation of connexin 26 is potentially related to some cases
of unexplained hearing loss. Thus, the research of this mutation could be
included in the routine testing for investigation of hearing loss to elucidate
the diagnosis, etiology and genetic counseling.

Keywords // Hearing, Non Syndromic Hearing Loss, connexin 26, GJB2 Gene

PO235 // OTOTOLOGY // Audiology
Correlation of acoustic immittance measures with probe tone of 226 and 1000Hz in neonates
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To correlate the measures of volume, peak pressure and complacency
in tympanometric curves of neonates with genre, ears and tone probe of 226 and
1000Hz and analyze the responses obtained in the survey of the acoustic
reflections with the two tone probe tested. We evaluated 73 neonatal with
integrity of outer hair cells observed by transient evoked otoacoustic
emissions. The evaluation of measures of acoustic immittance clinical outcome,
observation and correlation of the answers obtained in tympanometrias and
research of acoustic reflexes with tone probe 226 and 1000Hz. We observed
statistically significant difference between the curves of single and double peak
(p < 0.001), with a higher occurrence of single peak with tone probe of 1000Hz.
There was statistically significant difference between the genres as complacency
in 226Hz (p = 0.011) and between the ears in compliance measures (p = 0.004
and p = 0.002) and peak pressure (p < 0.001 and p = 0.045) in 226 and 1000Hz,
respectively. The acoustic reflections observed pre sence of ipsilateral and
contralateral reflexes in all the neonates evaluated. The results showed
statistically significant difference between analyzed variables with tone probe of
226 and 1000Hz tone, and in the average of the ipsilateral and contralateral
acoustic reflexes with tone probe of 1000Hz against the variable gender and
ipsilateral and contralateral reflexes between the frequencies of 1000 and
2000Hz with tone probe of 226 and 1000Hz.

Keywords // Spontaneous Otoacoustic Emissions; Newborn; Acoustic Reflex; Acoustic Impedance tests.

PO236 // OTOTOLOGY // Audiology
Correlation of the findings of auditory steady-state evoked response and of behavioral hearing
assessment in infants with sensorineural hearing loss
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Correlate the findings of open field child audiometry with the thresholds of Auditory Steady-State Responses (ASSR) found in infants of up to six months of age with sensorineural hearing loss. Were included in this study children that were referred to the clinic hearing health from HNSC, who failed in UNHS, with at most six months of age, with sensorineural hearing loss. The ASSR study was used, in the frequencies of 500 and 2000 Hz, and audiometry was performed in open field through observation of behavioral responses to sound stimuli, in the same frequencies. Were evaluated 19 child en, eight male and 11 female, with at mean four months of age, at least two months and at most six months. We observed a significant correlation between the findings of both tests in the frequencies of 500 and 2000 Hz, the values being of p=0.002 and p=0.013, respectively, and correlation between the thresholds of the evaluations and the degrees of hearing loss, with a stronger correlation in severe and profound degrees. There was no significant difference between ears (p=0.532) and genders (p=0.615). We conclude that there is a significant correlation between the thresholds of ASSR and the findings obtained in open field child audiometry. In this way, we can affirm that ASSR is a relevant and important exam, able to predefine the degree and configuration of hearing loss in children younger than six months old, and it may be included in the clinical routine of infant hearing assessment.

PO237 // OTOLARYNG // Audiology

Correlation of evoked potential hearing in stable condition listening neonates born at term and preterm

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This paper correlates the thresholds obtained on the evoked potential hearing in hearing newborns delivered preterm and full term, using the 500, 1000, 2000 and 4000 Hz frequencies bilaterally, to compare the full term and preterm newborn groups. Twenty one preterm newborn babies and 20 full term newborn babies who have passed through the newborn hearing triage and presenting transient otoacoustic emissions and otoacoustic emissions produced by distortion, alteration free tympanic metric curves and suitable otolaryngologic evaluation. Later, the evaluation of evoked potential hearing in stable state was conducted. The results were analysed on gestational age, ear and genre. There was a significant statistical correlation between the thresholds of both groups in the 500 Hz frequency (p=0.006 and p=0.022 ), 100 Hz (p=0.003 and p= 0.008 ), 2000 Hz (p=0.003 and p=0.017 ) e ( p=0.007 and p=0.013 ) in the right and left ear respectively. The preterm newborns present more elevated thresholds in all the tested frequencies than the thresholds of the full term newborns. There is a significant statistical difference between the full term hearing newborns and the preterm hearing newborns, being the thresholds of the first group higher in the 500, 1000, 2000 and 4000 Hz. There were no significant differences between ears and genre of the newborns.

Keywords // Evoked potential hearing, Newborn, Preterm

PO238 // OTOLARYNG // Oncology, head and neck, oral cavity, pharynx and trachea

HANDGRIP STRENGTH IS A GOOD INDICATOR OF NUTRITIONAL STATUS AT TUMOR DIAGNOSIS IN MALE HEAD AND NECK CANCER PATIENTS

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Background: Patients with head and neck cancer have several risk factors contributing to deterioration of nutritional status during the course of illness. Significant weight loss may result in increased rate of complications and treatment interruptions. The method to detect risk patients should be reliable and easy to use. The primary aim was to evaluate the suitability of handgrip strength as an indicator of nutritional status.

Methods: Cross-sectional study in 50 male patients with primary head and neck cancer was conducted. Handgrip strength, PG-SGA, NRS-2002, upper-arm muscle area and fat-free mass were used to evaluate nutritional status prior to any cancer therapy.

Results: The median (range) age was 61 years (33-77). Low handgrip strength was observed in 18-44% of the patients according to cutoffs.

Keywords // Head and neck cancer, handgrip strength, nutritional status assessment, Nutritional Risk Screening, Patient-Generated Subjective Global Assessment

PO239 // OTOLARYNG // Neuro-Otology and vestibular system

Does delay in treatment increase the likelihood of anxiety and depression amongst patients with a unilateral peripheral vestibular deficit?

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Guy’s and St Thomas’ Hospital

Background: Anxiety and depression are common sequelae following an acute unilateral peripheral vestibular deficit (UPVD). We explored the possibility of a relationship between the level of reported anxiety and depression symptoms and duration of symptoms of dizziness following an UPVD.

Methods: Patients diagnosed with a caloric confirmed UPVD between September 2011 and August 2012 were identified. Those diagnosed with Méné’s re’s disease or those in whom the loss was deemed to be due to physical or chemical trauma were excluded. Case notes were reviewed and the Hospital Anxiety and Depression score (HADS) and Dizziness Handicap Inventory (DHI) score taken at the initial assessment, recorded and plotted against duration of symptoms.

Results: A total of 100 patients were identified. The mean duration of symptoms was 81.1 months. Completed HADS and DHI scores were available in 67 patients. Mean scores were 14.7 for HADS and 41.0 for DHI. On the HADS, 24% of patients reported significant emotional burden with an additional 20% with borderline significance. Linear regression analysis comparing HADS and DHI scores against duration of symptoms, revealed no statistically significant trend (p=0.834 and p=0.923 respectively). However DHI and HADS displayed significant correlation (p

Keywords // unilateral peripheral vestibular deficit, depression, anxiety, DHI, HADS, duration of symptoms, Guy’s and St Thomas’

PO24 // OTOLARYNG // Otology and facial nerve

Progressive Acquired Conductive Hearing Loss due to Isolated Fusion of the Incudostapedial Joint

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Objectives The most frequent cause of acquired conductive hearing loss (ACHL) without any abnormalities shown in CT imaging is otosclerosis. In this study, we investigated 6 cases in which the incudostapedial joint (IS joint) was strongly anklyosed in spite of a normal footplate.

Methods and Results A review of 51 stapes surgery from April 2005 to March 2011 in our department yielded 6 cases that had strongly anklyosed IS joints, yet with a normal footplate. All 6 of these cases were women; 5 were affected unilaterally and one bilaterally. Their mean age at the time of surgery was 40.8 years (24-55). When identifying the IS joint during a transmeatal tympanotomy, we recognized a very strong fixation of the IS joint, which deprives the stapes of its mobility. The long crus of incus and the superstructure of the stapes were rigidly, directly fused and the lenticular process was absent. After separation of the IS joint, the mobility of the stapes recovered to its normal state. In all of the cases, we performed a stapedotomy using a 4.5-mm-long Teflon wire piston. At two to 43 months after surgery, the air-bone gaps remained improved in 5 cases.

Conclusions Although cases such as these can present with similar clinical signs, symptoms and courses as those associated with otosclerosis, we usually do not know this before performing a tympanotomy. At present, we cannot conclude whether this is a special subtype of otosclerosis, a congenital malformation, or a new disease state.
Expression of cancer/testis antigens Multi MAGE-A, MAGE-C1 and NY-ESO-1 in oral squamous cell carcinoma

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The increase in mortality requires new tumor markers such as carcinomaembryonic antigen testis (ACT), to be identified to improve the diagnosis and treatment of oral cancer. Objectives: To analyze the expression of ACTs (Multi MAGE-A, MAGE-C1 and NY-ESO-1) and evaluate their relationship with the clinical, histological and prognosis. Methods: Obtained from 63 paraffin blocks, serial sections of representative tumor of the oral cavity that were labeled with antibodies 57B, MA45, M3H67, 6Cl (Multi MAGE-A), C7-33 (MAGE-C1) and E978 (NY-ESO-1) for immunoblot analysis. The clinical characteristics and histological (inflammatory infiltrate, degree of differentiation, lymphatic invasion and angio-neural) were related to the expression of ACTs. Results: Expression of MAGE-A Multi TCA was 90.5%, the MAGE-C1 was 17.5% and the NY-ESO-1 was 12.7%. There was no relationship between gene expression, the variables studied and survival curves. Discussion: The identification of tumor antigens capable of inducing specific immune response has piqued the interest of researchers. With the combination of antibodies MA45, M3H67, 6Cl, 57B was obtained 90.5% of the expression of MAGE-A Multi, qualifying it as high expression in squamous cell carcinoma of the oral cavity. Conclusion: The ACTs studied are expressed in different proportions, with no relation to the clinical variables studied, nor with survival curves.

Keywords // Neoplasms Antigens, Immunohistochemistry, Immunotherapy, Biological Tumor Markers, Mouth Neoplasms

PO243 // OTOLARYNGOLOGY, Otology // Otolaryngology
French “Audimot” : Development of a French version of the Four Alternative Feature Test
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The Four Alternative Auditory Feature Test (FAAF) is a word-based closed-set speech perception test, originally developed in British English, that is widely used for assessing hearing aids benefit. It offers several advantages over open-set recognition tests, such as less dependency on cognitive mechanisms relevant for speech recognition, and better reliability in repeated testing, with less memory influence on the results than open sets tests of words can offer. We developed a French version of the test, that consist in asking the subjects to choose the word they heard, amongst a choice of 4 monosyllabic words, differing from each other by a single phoneme, consonant or vowel and presented to them via a computer tactile monitor. Performance intensity functions of 82 sets of 4 words, pronounced by a female and a male voice, were recorded in 16 normally hearing ears, allowing the selection of 30 sets for the final test. The relative amplitude of each word for each set were adjusted, to have the most reproducible intensity function for the selected sets. For the final test, the 62.5% perception threshold ranged between 9.5 and 11.7 dB SPL, with a slope between 7 and 12% per 10 dB, with a significantly greater slope for vowels than for consonant changes (12 versus 7%/10dB) F(1,60)=8.7, p<0.005). Psychometric properties and normative data values for the test are presented, as well as potential clinical applications for the assessment of hearing performance.

Keywords // Speech perception, auditory test development

PO244 // OTOLARYNGOLOGY, Otology // Otolaryngology
External laryngocele “A” A case report
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Introduction: Laryngoceles are uncommon congenital anomalies of the supraglottic larynx. They form as a result of air or fluid filled dilations of the laryngeal ventricle, which communicate with the laryngeal lumen. Materials and methods: We present a case report of a 58 years old patient without a significant pathological history who is admitted with progressive dysphagia, dysphonia and moderate dyspnea, which appeared three weeks before presentation. The indirect laryngoscopy revealed a cystic tumor in the left pyriform sinus. The biopsy for histopathological examination diagnosed vascular laryngeal polyp. After a month the patient returns with the same symptoms. On clinical examination it is found a 6/5 cm, soft, painless left latero-cervical tumor mobile with the larynx movements. During the surgery the tumor extends and dissects superiorly through the thyrohyoid membrane and was intimately associated with superior laryngeal nerve. The neck CT together with the biopsy revealed laryngocele.

Conclusions: Laryngocele is considered a rare condition which may present with variable symptoms ranging from mild to life threatening. The diagnosis of laryngocele should be kept in mind in cases of upper neck swelling.

Keywords // Laryngocele, Speech perception, head and neck, oral cavity, pharynx and trachea

PO241 // OTOLARYNGOLOGY, Otology // Otolaryngology
Psychometric properties and normative data in noise for a closed-set speech perception test.

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CHU of St Etienne/LBTO

Due to the recent development of hearing aid technologies, assessing their benefit in a silent environment is not sufficient, with patients reaching easily 100% scores in conventional tests in silent background. Yet, to be able to benefit in a silent environment is not sufficient, with patients reaching easily 100% scores in conventional tests in silent background. For the final test, the 62.5% perception threshold ranged between 9.5 and 11.7 dB SPL, with a slope between 7 and 12% per 10 dB, with a significantly greater slope for vowels than for consonant changes (12 versus 7%/10dB) F(1,60)=8.7, p<0.005). Psychometric properties and normative data values for the test are presented, as well as potential clinical applications for the assessment of hearing performance.

Keywords // Speech perception, auditory test development

PO242 // OTOLARYNGOLOGY, Otology // Otolaryngology

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Nowadays, performances of hearing aid and cochlear implant technologies are such that the challenges ahead lay more in terms of auditory perception in everyday noisy environments than in terms of basic auditory perception of isolated words presented in a silent background. One of the most challenging situation reported by most hearing-impaired patients, is speech perception in babble noise, the so-called “cocktail party” effect, combining energetic and informational masking of speech. In order to standardize speech perception tests in babble noise, it is important to have a babble noise as close as possible to natural speech sounds, and with known characteristics. To this aim, we created several babble noises of known characteristics, by mixing up to 32 voices of different French-native talkers, 19 to 65 years old. The characteristics of each voice were established from one repeated recording of a single short story. Then, each voice signal was recorded during 15 minutes of reading easy French texts. Each signal was then processed to eliminate talker hesitations, band-pass filtered and normalized. Temporal and spectral modulations for each signal were analyzed. Different babble noises were created, with different voice gender and voice fundamental frequencies combinations, and different treatment of speech pauses. The resulting babble noises characteristics are presented, as a function of the different signal processing methods and voice combinations used.

Keywords // speech perception in babble noise, auditory test development
In the present case, laryngeal cancer was not associated with laryngeal cancer, but it is most important to remember and to consider the possibility of this association.

Keywords // laryngeo, cystic tumor, neck CT

PO245 // OTOLGY // Oncology, head and neck, oral cavity, pharynx and larynx

Surgical Resection Alone for Early Stage Squamous Cell Carcinoma of the Oral Tongue

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Introduction: Early stage squamous cell carcinoma of the oral tongue is often managed with surgical resection alone. Local failures (LF) occur that potentially could be prevented with adjuvant treatment, but currently there are no clear guidelines dictating indications for adjuvant radiotherapy (RT). Methods: We conducted a retrospective review of patients with T1-2 N0 tumors of the oral tongue treated with surgical resection alone at Mayo Clinic in Rochester, MN from 1995-2005. Patients with positive surgical margins were excluded. We analyzed local control (LC) and predictors thereof, in order to identify potential indications for adjuvant RT. Actuarial statistics were performed using the Kaplan-Meier method. Herein, we present an update of previously reported data.

Results: Ninety-four patients were included in the analysis. Median follow-up was 5.4 years. Five-year actuarial LC, overall survival and local recurrence-free survival were 84%, 72% and 65%, respectively. On univariate analysis, there was no statistical difference in LC, overall survival and local recurrence-free survival with adjuvant RT. Conclusion: Surgical resection alone is adequate for early stage squamous cell carcinoma of the oral tongue.

Keywords // Cancer, Oral Tongue, Recurrence Risk, Outcomes

PO246 // OTOLGY // Otology and facial nerve

Earplugs Lodged in the External Auditory Canal, A Nasty Complication

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Many people for a wide variety of reasons use earplugs. Law in the UK requires people who are regularly exposed to noises over 85 decibels to wear earplugs. The Scottish Intercollegiate Guidance Network recommends earplugs for the use of earplugs by the partners of obstructive sleep apnoea suffers. There are complications associated with repeated use such as ear wax impacted on the tympanic membrane, aurial discharge and pain. However we report on a much more serious complication, an earplug lodged in the external auditory canal. This can cause great pain and distress to the patient and it is an issue that is poorly managed in many hospitals today.

Our aim is to raise awareness among otolaryngologists about the complications arising from the use of earplugs. We report on 8 consecutive patients presenting to the ENT department with this problem. We collected data on patient demographics, earplug type, laterality of the ear, indication and prior attempts to remove the earplug. Patients presented in a lot of pain and distress from the earplug. This was exacerbated bruising and inflammation by previous failed attempts to remove the earplug by General Practitioners and A and E consultants. The earplugs were very difficult to remove, in fact, 2 needed a general anaesthetic to remove the debris. Our findings showed that this issue is best dealt with primarily by an Otolaryngologist with relevant experience and equipment as opposed to ill equipped and untrained GPs and A and E consultants.

Keywords // Earplug, Complications, Awareness

PO247 // OTOLGY // Oncology, head and neck, oral cavity, pharynx and larynx

Chronic eosinophilic leukemia presenting as a skull base extramedullary myeloid neoplasm with cranial nerve deficits: A case report and literature review

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Chronic eosinophilic leukemia (CEL) is a rare hematologic disorder characterized by eosinophilia associated with organ dysfunction. CEL typically presents with a clonal chromosomal abnormality. The FIP1L1-PDGFR alpha fusion gene is often present in patients with CEL. The FIP1L1-PDGFR alpha fusion gene is a hallmark of CEL, and is associated with a favorable prognosis.

Keywords // Chronic eosinophilic leukemia, hypereosinophilic syndrome, skull base, FIP1L1-PDGFR

PO248 // OTOLGY // Neuro-Otology and vestibular system

Neurovascular conflict associated with vertigo in a 12-year old boy: a case report

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Vertigo is an uncommon complaint in children and adolescents and its differential diagnosis is extensive. The most important clues to the diagnosis of vertigo are obtained through a careful clinical history and a complete otolaryngological and oto-neurological physical examination. Further tests such as Video-Noninvasive Myography (VNG) and Magnetic Resonance Imaging (MRI) can be a precious help in recurrent attacks of undefined etiology. Vascular compression of the vestibulocochlear nerve, usually an artery, can occur in the internal auditory canal (IAC) or more often in the cerebellopontine angle, leading to various symptoms such as vertigo, imbalance, tinnitus or hearing loss.

The authors report a case of a 12-year old boy with a one year history of recurrent attacks of incapacitating vertigo, lasting several hours and associated with nausea and vomiting. There was no history of headache, tinnitus or hypoausis. The physical examination between the attacks was normal. The VNG showed a vestibular hypoflexia in the caloric tests at the right side and MRI revealed a vascular loop insinuating into the internal auditory canal (IAC) contacting the VIII cranial nerve. The authors report this case for its rarity. Although microvascular compression of the vestibulocochlear nerve is known to cause disabling vertigo this is one of the rare cases reported in pediatric population.

Keywords // vertigo; children; adolescent; microvascular conflict; vascular loop

PO249 // OTOLGY // Oncology, head and neck, oral cavity, pharynx and larynx

Herpetic Oral Manifestation in Immunosuppressed Patients

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Introduction: Herpes simplex virus is among the most frequent causes of these infections. In immunocompromised patients the presentation may be atypical, with more extensive lesions, painful and with
slower recovery. Case report: Female patient, 43 years old, 32 days after the start of chemotherapy for acute myeloid leukemia, began complaining ofodynophagia and painful emergence of lesions in the oral cavity. She presented multiple whitish ulcerated lesions with an erythematous halo, measuring around 0.5 cm in diameter across the mouth and the posterior wall of oropharynx. Treated with acyclovir with rapid improvement of symptoms and lesions. Cytological changes were found compatible with herpes simplex. Discussion: In most cases of infection with herpes simplex the presentations are self-limit but severe infections may occur and atypical in immunosuppressed individuals. Additional exams help in diagnosis. Acyclovir is the drug of choice for the treatment. Conclusion: The oral lesions of herpes virus in immunosuppressed patients may have varied presentations and can often go unnoticed, as in mild or asymptomatic cases. However, due to the possibility of systemic spread of infection and the occurrence of severe manifestations, one should be highly suspected before the appearance of any oral lesion in the immunosuppressed patients.

Keywords: // Herpes; aftas; immunosuppression; acute myeloid leukemia.

PO25 // OTOLGY // Otology and facial nerve

Facial Nerve Schwannoma

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Facial nerve schwannoma are rare, benign tumours excised, nerve grafting done in 2 cases, facial hypoglossal anastomosis done in one. In all the three cases Open cavity mastoidectomy done, tumour mass delineated. In 1st case presented with facial nerve palsy, gradual and progressing to grade VI. O/E: Omega shaped mass arising from floor of external auditory canal. Biopsy done HPE- Schwannoma. HRCT - revealed a swan shape mass in continuity with the mass in external auditory canal filling whole mastoid cavity. Tumour seen extending from the second genu to stylomastoid foramen. Mass completely excised and grafting done using the auriculo temporal nerve. 2nd case: presented with recurrent episodes of facial palsy since 2 years. O/E: through a normal Tympanic membrane a pinkish mass seen anterior to malleus. Diagnostic Myringotomy done, biopsy done HPE-Schwannoma. MRI revealed a tumor mass arising from the meatal foramen to the stylo mastoid foramen which was completely excised. Facial hypoglossal anastomosis done.3rd case: Presented with swelling in front of the ear with grade VI facial nerve palsy. MRI revealed a Dumbbell shaped tumour arising from the 2nd genu with constriction at the stylo mastoid foramen and extending into the neck over the parotid. Tumour arising from the 2nd genu and extending just proximal to the bifurcation of facial trunk, excised and grafting done using greater auricular nerve. Facial nerve grafting results are not satisfactory in Schwannoma cases.

Keywords: // Acoustic tumor, Facial nerve Schwannoma, Slow growing tumours.

PO250 // OTOLGY // Otology and facial nerve

Bilateral sudden hearing loss.

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Bilateral sudden hearing loss is a rare entity that challenges the current daily practice of the ENT practitioner. Sudden hearing loss occurs unilaterally in most cases, and bilateral, simultaneous, sudden hearing loss is a rare condition, accounting for 0.44% to 3.4% of cases of sudden deafness. We report a case of sudden bilateral hearing loss affecting a young man with no subjacent illnesses and with no associated symptoms. Although all of these symptoms suggested an autoimmune disease, we ordered all the probes included in our protocols. However, the following tests: pure-tone audiometry, tympanometry, acoustic reflex, speech audiometry, and steady state response. All of these tests confirmed a bilateral severe mixed hearing loss. He was also submitted to vestibular tests with the result of bilateral vestibular hypofunction despite the complete absence of vestibular symptoms. In order to complete the evaluation we asked for a posterior fossa magnetic resonance that was also completely normal. But it was the laboratory test that confirmed the initial suspicion of autoimmune ear disease. We observed an elevation in the antiinflammatory antibodies, and the presence of a monoclonal IgA pike in blood. All of these lead us to suspect a Cogan’s syndrome. Nevertheless we still have to wait for its evolution, until we’ll be able to confirm this diagnosis.

Keywords: // Sudden hearing loss; Cogan’s syndrome.

PO251 // OTOLGY // Audiology

EFFECTS OF EXERCISE ON ABR

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Aim: The aim of the study was to investigate the effect of aerobic and anerobic exercise on auditory brainstem response (ABR) parameters. Methods: the mean healthy audiologically normal male volunteers (mean age: 29.2±5.1) were included in the study. In alternate days, patients underwent submaximal %60-70 aerobic exercise and Wingate anaerobic exercise. ABR measurements were performed before and after exercises. Additionally, ABR testing was attempted during aerobic exercise. Oral body temperature was recorded during each measurement. Results: Latencies of waves I, III and V and interpeak latencies I-III, I-V and III-V were analyzed for each condition (pre-exercise, post-exercise and 3 times during aerobic exercise) Only body temperature measured during exercise was significantly different from pre-exercise temperature (p<0.05). Latencies were similar in all conditions. Conclusion: There was a tendency for shortening of interpeak latencies I-V and III-V and latency of wave V that were measured during aerobic exercise but these were not significant. We thought that interaction of temperature and background noise were the factors that influenced the results. Although, only confounding factor during anaerobic exercise was body temperature, which might alter the results, we did not encounter significant difference between recordings. This might be interpreted as an increase in latencies that was hidden. We found that ABR traces were obtainable during aerobic exercise.

Keywords: // exercise, auditory, brainstem, response, ABR

PO252 // OTOLGY // Oncology, head and neck, oral cavity, pharynx and trachea

The Use of Nerve-Integrity Monitor (Electroneuromyography) in Paratidectomy Surgery: A Case Report

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Intraoperative neuromonitoring (IONM) is a relatively recent advance in electroneuromyography (ENMG) applied to head and neck surgery. The use of nerve-integrity monitor (electroneuromyography) have importance in paratidectomy, it can map and identify the facial nerve branches (VII) in real time during the surgery, herewith, it can be possible to obtain a better prognosis as nerve injury. The objective of this study is to report the importance of the use of ENMG in parotid surgery and present a case report with the technique. Patient LCCM, 82 years, submitted a surgery and treatment of kidney cancer, in 2000. In November of 2012, the patient attended the ambulatory of Head and Neck Surgery at the Hospital da Beneficência Portuguesa, Bauru - SP - Brazil, bearing a nodule 3.5cm in the left parotid region. Underwent ultrasound-guided needle aspiration was diagnosed Clear Cells Carcinoma, being attributed to a metastatic lesion of the kidney. In 2013 she underwent parotidectomy surgery guided by never integrity monitor. Currently, she is in post operative with preserved function of the facial nerve (VII).

Keywords: // Head and Neck Surgery; Intraoperative Nerve Monitoring; Electroneuromyography; Facial Dissection; Paratidectomy

PO253 // OTOLGY // Otology and facial nerve

A TEMPORAL OPTION FOR PARALYTIC LAGOPHTHALMOS

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INTRODUCTION: Management of lagophthalmos should be a priority in the treatment of patients with facial palsy. The injection of hyaluronic acid gel into the upper eyelid is a nonsurgical alternative to patients with temporary facial palsy.

Keywords: // Sudden hearing loss; Cogan's syndrome.
METHODS: 30 patients treated with hyaluronic acid gel into the pretratal region of the upper eyelid. Measurements taken before and after treatment were standardized and compared. Patients were followed-up for 1 year.

RESULTS: The mean improvement in lagophthalmos was 4.6 mm (range, 3.5-6.5 mm). All patients demonstrated initial improvement in lagophthalmos 0.0 mm. After 1 month, 2 patients had a significant increase in lagophthalmos (initial fissure more than 8 mm), and a platinum weight was implanted to control keratopathy. The remaining (initial lagophthalmos below 6.5 mm) maintained the improvement until facial restoration. Only 3 patients had recurrent lagophthalmos (1 mm) due to resorption, which was resolved by injecting an additional 0.3 cc. Complications included transient ecchymosis and minimal nonreabsorption in 7 patients. These patients were successfully treated with hyaluronidase.

CONCLUSIONS: Hyaluronic acid gel has proven effective in reducing paralytic lagophthalmos and controlling keratopathy in patients with temporary facial palsy, especially those with lagophthalmos non greater than 6.5 mm. Injection of hyaluronic acid gel is safe, quick, and easily performed. In addition, it is more cost-effective than surgery.

Keywords: Facial palsy, Lagophthalmos, hyaluronic acid gel

PO254 // OTOTOLOGY // Otolaryngology
Myringoplasty. Patient satisfaction one year after surgery in the National Swedish Quality Register for Otorhinolaryngology
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Objective: To assess patient satisfaction of myringoplasty as a surgical treatment for dry tympanic membrane perforations.
Method: Data from the Register has been collected from 3067 assessable questionnaires received one year after surgery addressing the patients content with preoperative information, reported ear problems after surgery and patient satisfaction with the surgery. Healing of the eardrum was assessed at outpatient clinic control.
Results: Overall tympanic membrane healing rate in this material was 88.5% and patient satisfaction 79.9%. Reported rate of increased ear problems postoperatively were 5.4%, tinnitus 1.1 %, chorda tympani symptoms 0.5 % and postoperative infection 4.0%.
Among the 12.6% dissatisfied, 54% had a healed- and 45 % an unhealed tympanic membrane. In the group who was not satisfied in spite of healed tympanic membrane 25% reported more ear problems after surgery, tinnitus 3.9%, chorda tympani symptoms 0.9% and postoperative infection 9.1%. Further, discontent with the preoperative information was reported in 15.9% compared to 3.5% overall. Hearing improvement as an indication for surgery is associated with lower patient satisfaction than prevention of infection.
Conclusion: Patient satisfaction one year after myringoplasty is generally high. Important factors for patient satisfaction are healing of the tympanic membrane, absence of postoperative infections and probably adequate preoperative information.

Keywords: human, healing, myringoplasty, patient satisfaction, postoperative infection, quality register, surgical treatment

PO255 // OTOTOLOGY // Otolaryngology
Examination of acute sensorineural hearing loss in the population of 14-65 years in Montenegro in the period of one year
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The research was done during 2012 year on the Otological Department of the Regional Hospital "Danilo I" Cetinje, Montenegro. Statistically were analyzed all patients who complained of acute hearing loss in the last week and had a greater loss in hearing of 30 dB at three adjacent frequency pure tone threshold. Patients were grouped by age, gender, side of the lesion and the presence of hearing damage. All were examined by ENT examination, pure tone threshold, tympanometry, ABR, OAE, ASSR, Doppler blood vessels, X-ray cervical spine, CT scan, internistic/pediatric examinations, basic laboratory analysis and examination of neurologist in 23 patients (25,8%), who had an additional symptom of dizziness.

The total number of patients studied was 89 (43 females (48.31%) and 46 men (51.68%). With unilateral sensorineural hearing loss were 84 patients and bilateral 5. The youngest patient was a 14 years old, and the oldest 65th. There were no significant differences in clinical characteristics such as age, sex, interval from onset of symptoms to initiation of treatment, as well as the connection between unilateral and bilateral SNHL. Greater hearing losses were in the fall of unilateral hearing loss, but the improvement was significantly greater than the fall in bilateral loss. The total effective rate of improvement in both groups was 58.4% and 13.9%. Unilateral SNHL hearing loss is more common than bilateral. Earlier treatment with corticosteroids has a better prognosis.

Keywords: acute SNHL, unilateral hearing loss, bilateral hearing loss

PO256 // OTOTOLOGY // Otolaryngology
Cholesteatoma Surgery in Children: 12 years retrospective review
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Hospital Prof Doutor Fernando Fonseca

Introduction: Cholesteatoma surgery in children is a challenge to many surgeons. The ideal surgical technique is the one that eradicates the disease preserving hearing ability.
Objective: To analyze the results on a series of pediatric cholesteatomas in the Otorhinolaryngology Department of Hospital Prof. Doutor Fernando Fonseca Material and Methods: A retrospective analysis of cholesteatoma cases in children treated between 2000 and 2011 was performed. The charts of 29 patients from 0 to 18 years old with cholesteatoma were reviewed. A total of 30 ears had surgery.
Results: Cholesteatoma was extensive with mastoid involvement in the majority of cases. A canal wall up procedure (CWD) was performed in 26,7% of the ears in the first stage, a canal wall down procedure (CWD) in 66,7%, a transmeatal atticootomy in 3,3% and a tympanoplasty in 6,5% of the ears. The CWD procedure had higher rate of recurrent cholesteatoma than CWD. The global recurrence rate of cholesteatoma was 23,3%. The average postoperative air-bone gap was of 22,5 dB. An air-bone gap of less than 20 db was achieved in 26,7%. More than 66,7% had a gap of less than 30 db.
Conclusions: In this study most of the cases had extensive disease and the CWD procedure was the most frequently used. The recurrence rate was high. Long-term close follow-up is important especially in cases involving higher risk such as young children with mastoid extension of cholesteatoma.

Keywords: Cholesteatoma; Children; CWD; CWD

PO257 // OTOTOLOGY // Otolaryngology
Cowden syndrome in Otolaryngology: a case report
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FundacióIñi Jiménez DÁ–az

Introduction
Cowden syndrome is an autosomal dominant disorder characterized by benign and malignant hamartomatous lesions that can develop from all three germ cell derivatives.

Case presentation
A 31-year-old woman with pharyngeal foreign body feeling was referred to our ENT Department for evaluation and treatment of pharyngeal masses detected in cervical computed tomography. She already had been diagnosed of Cowden Syndrome.

A physical examination revealed a mass dependent lateral pharyngeal wall in close contact with left lingual tonsil which occupies approximately 60% of the space pharyngeal mucosa hypertrophied follicular aspect.

Attending to the potential risk of airway narrowing and lesions malignancy excision surgery was recommended. The patient refused it so alternatively, there was offered volume decreasing of the pharyngolaryngeal masses by radiofrequency. This treatment was effective decreasing size of the bulky lesions.

Conclusion
we believe head and neck surgeons need to balance their decisions between individual risk assessment, potential psychological benefits and accepted guidelines. It is important for clinicians to recognize otolaryngologic manifestations of Cowden syndrome because they can lead to the early diagnosis of the condition.

Keywords // Cowden syndrome, pharyngeal mass

PO258 // OTOLGY // Oncology, head and neck, oral cavity, pharynx and trachea

Unusual aetiology of life threatening laryngeal oedema “Electrolyte imbalance: Implications for an Otolaryngologist

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Introduction
Some of the known complications of electrolyte disturbance include cardiac arrhythmias, neuromuscular instability, myopathy, cerebral oedema, and osmotic demyelination which can prove fatal. However, less commonly known complication arising from electrolyte imbalance is stridor associated with vocal cord paralysis and/or laryngeal oedema.

Aims
To raise awareness among Otolaryngologists about the importance of electrolyte imbalance that could potentially compromise the airway.

Methods
Two case reports with literature review

Results
A 60 year old Caucasian female developed proximal muscle weakness. She was found to have hypokalaemia of 2.1. She required intubation and ventilation because of her respiratory muscles involvement. She had severe laryngeal oedema and required a tracheostomy. The electrolytes were corrected, she made a full recovery.

A 63 year old Caucasian male presented with stridor and confusion with a preceding 1 week history of sore throat and dysphagia. On examination he had severe laryngeal oedema that required emergency debulking and subsequently he was kept intubated and ventilated. He was found to have hyponatraemia of 112 that was gradually replaced with improvement in his laryngeal swelling.

Conclusion
Stridor and laryngeal oedema can be the presenting features of deranged electrolytes. Such patients should be looked after in a multidisciplinary team setting involving the Endocrinologists, Intensivists and Otolaryngologists.

Keywords // Electrolytes, Larynx, Stridor, Trachostomy

PO259 // OTOLGY // Neuro-Otology and vestibular system

Selective lateral semicircular canal ampullar receptor laserdestruction in patients with Mnière’s disease

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Moscow State Scientific Center of Otorhinolaryngology in the name of I.I.Sverzhevsky of Health Care Department, Moscow, Russia (director ** prof. A.I.Kryukov)

Objective: 25% of patients with Mnière’s disease (MD) required surgical intervention because of conservative treatment lack. Decompression and endolymphatic sac’s drainage are the preferred technique but it’s identified only in 50% of cases.

Aim: Follow-up study after selective lateral semicircular canal (LSC) laserdestruction in MD.

Materials: Selective LSC laserdestruction’s performed by pulsed neodymium laser (pulse duration-2,5-3 msec, wave length-1060 nm, pulse energy-10 J). After classic antrotomy quartz light guide gets in contact with the LSC wall near ampula. The laser energy exposure on the bony canal wall’s conducted by defocused laser beam in a way that main energy releases in the canal lumen and it accompanies with powerful hydrodynamic stroke on the ampullar receptor. Bony canal wall left intact so along with vestibular function depression hearing’s preserved.

Methods: 165 patients with unilateral MD were included in study. Age range 24-69 years. Disease average duration-7,2 years. Moderate hearing loss (hearing levels at speech frequencies at PTA- 41-55dB)–in 63,9%, severe hearing loss (hearing levels at speech frequencies at PTA- 56-70dB)-in 36,1%.

Results. The patients’ examination in 1 year after surgery show: the hearing levels in operated ear remain unchanged, vestibular excitability reached 10-20% of normal levels so that 84,2% of patients’d got reducing of vertigo intensity and frequency. Case follow-up within 10 years showed stability of obtained results.

Keywords // Mnière’s disease, neodymium laser, selective laserdestruction

PO26 // OTOLGY // Otology and facial nerve

High pressure (hyperbaric) oxygen therapy for Bell’s palsy

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Bell's palsy is a weakness of one side of the face that is diagnosed after other causes of facial weakness have been ruled out. Standard treatment includes steroids to help settle swelling of the facial nerve, whereas antiviral treatment does not appear to help. In hyperbaric oxygen therapy, the person undergoing treatment breathes 100% oxygen in a pressurised chamber for about one hour. This may produce more dissolved oxygen in the facial nerve and might reduce nerve damage in Bell's palsy. We searched for evidence from randomised controlled trials on hyperbaric oxygen therapy in adults with moderate to severe Bell's palsy. We found very low quality evidence from one trial to suggest that hyperbaric oxygen therapy might be beneficial for moderate to severe Bell's palsy.

The trial involved 95 participants and compared hyperbaric oxygen therapy to prednisone. The participants did not know which treatment they were being given. Those treated with hyperbaric oxygen recovered more quickly and recovered normal facial movement more often (91% versus 71%). All participants tolerated the treatment well, and there were no major complications.

The quality of evidence from this trial was very low because the assessors of facial function were aware of which treatment each participant had been given. There is therefore no high quality evidence on which to base conclusions about the efficacy of hyperbaric oxygen therapy in Bell's palsy.

Keywords // Bell’s palsy, hyperbaric oxygen therapy

PO260 // OTOLGY // Otology and facial nerve

Healing of tympanic membrane perforations after myringoplasty. Data from the Swedish Quality Register of Otorhinolaryngology.

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Objective: To evaluate the results after conventional myringoplasty as the treatment for dry tympanic membrane perforations. Healing rate, complications, and patient satisfaction were studied.

Method: Data from the Swedish Quality Register of Myringoplasty was evaluated. From the start of the register in its present form 2001, 2664 complete registrations of surgical procedures were possible to analyze. Healing of the tympanic membrane and complications were assessed at an outpatient clinic visit, 6-24 months after surgery. Patient satisfaction was evaluated by a questionnaire.

Results: At the postoperative follow-up visit, healed tympanic membranes were found in 89% of the cases. Patients reported in 0.6 % chorda tympani symptoms, 1.4% complained of a new onset of, or increased tinnitus. The most common postoperative complication was infection that occurred in 4.0% of the cases. The analysis of the patient questionnaire showed that 84% answered that they had less problems with their ears after surgery. Five percent had more problems, and 12% were not satisfied with the result.

Conclusion: The analysis of data obtained from Swedish Quality register showed a healing rate of 89% after conventional myringoplasty and a high degree of patient satisfaction. The reported number of postoperative complications were few. Further data will be presented.
We report this case to illustrate an unusual location of KS as first symptom of patient was treated empirically with amoxicillin and clavulanic acid. The skin revealed KS. A bronchoscopy was performed, revealing typical Kaposi's tonsils revealed typical features of KS. Further tests were done revealing HIV 1.

Anti-retroviral treatment and chemotherapy with Doxorubicin was started. A 27-year-old healthy woman presented with fever and odynophagia for three manifestation of KS in an unusual anatomic site "the palatine tonsil.

Computed Tomography of the Left Ear. For aggravated symptomatology days later, anaggravated singtonatology days later, was admitted at the Hospital's Department of Otolaryngology for administration of intravenous treatment. At this time, the diagnosis was taught to be of malignant external otitis. By maintaining the symptoms, despite optimal therapy, was subjected to surgical intervention, where temporal biopsy was performed. The results revealed metastatic breast invasive carcinoma.

The bone metastasis to the head and neck is rare. In 20 to 35% of the cases it may be the first manifestation of an occult neoplasia. In the specific case of the temporal bone metastases are originated, more often, breast, lung, kidney, prostate and stomach. We present a case report of a patient, female, 71 years old, with the diagnosis of Ductal Carcinoma cribriform type in the left breast, having undergone total mastectomy, chemotherapy and radiotherapy. The patient presented with left otalgia associated with ipsilateral facial paralysis, without any other otologic symptoms. She was first diagnosed with an aggravation of Chronic Otitis Media, being medicated and submitted to a Computed Tomography of the Left Ear. For aggravated symptoms days later, was admitted at the Hospital's Department of Otolaryngology for administration of intravenous treatment. At this time, the diagnosis was taught to be of malignant external otitis. By maintaining the symptoms, despite optimal therapy, was subjected to surgical intervention, where temporal biopsy was performed. The results revealed metastatic breast invasive carcinoma.

Keywords // tympanic membrane perforation, myringoplasty, human

PO261 // OTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Kaposi Sarcoma of the Palatine Tonsil
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Hospital Professor Doutor Fernando Fonseca

Kaposi sarcoma (KS) is a multifocal, vascular lesion of low-grade malignant potential that presents most frequently in mucocutaneous sites. KS can also involve lymph nodes and visceral organs. This article deals with the manifestation of KS in an unusual anatomic site “the palatine tonsil.

A 27-year-old healthy woman presented with fever and odynophagia for three days. Clinical examination revealed unilateral inflamed tonsil with exudate and bilateral cervical lymphadenopathies. Bacterial tonsillitis was diagnosed and the patient was treated empirically with amoxicillin and clavulanic acid. Two weeks later, the patient was re-admitted to the hospital due to progressive dyspnea and cutaneous lesions. Clinical examination revealed progression of the tonsillar lesion throughout the nasopharynx and oropharynx. Biopsy of both tonsils revealed typical features of KS. Further tests were done revealing HIV 1 positive with CD4 cell count of 13/ul and HIV viral load of 929511/ml. Biopsy of the skin revealed KS. A bronchoscopy was performed, revealing typical Kaposi's lesions in the upper and lower respiratory tract. Culture of pulmonary secretions for Tubercle bacilli tested negative. Disseminated KS in newly diagnosed HIV was diagnosed.

Anti-retroviral treatment and chemotherapy with Doxorubicin was started. Follow up revealed complete remission of disseminated KS.

We report this case to illustrate an unusual location of KS as first symptom of AIDS.

Keywords // Kaposi Sarcoma; AIDS; Unusual location; Tonsil

PO262 // OTOLOGY // Otology and facial nerve
Temporomandibular Joint: Complications of Traumatic Mandibular Fractures
Sofia Deca Mata, Ivo Moura, João Rega, Cristina AdãÄSnis, Victor Gabã£o Veiga (Portugal)

The bone metastasis to the head and neck is rare. In 20 to 35% of the cases it may be the first manifestation of an occult neoplasia. In the specific case of the temporal bone metastases are originated, more often, breast, lung, kidney, prostate and stomach. We present a case report of a patient, female, 71 years old, with the diagnosis of Ductal Carcinoma cribriform type in the left breast, having undergone total mastectomy, chemotherapy and radiotherapy. The patient presented with left otalgia associated with ipsilateral facial paralysis, without any other otologic symptoms. She was first diagnosed with an aggravation of Chronic Otitis Media, being medicated and submitted to a Computed Tomography of the Left Ear. For aggravated symptoms days later, was admitted at the Hospital's Department of Otolaryngology for administration of intravenous treatment. At this time, the diagnosis was taught to be of malignant external otitis. By maintaining the symptoms, despite optimal therapy, was subjected to surgical intervention, where temporal biopsy was performed. The results revealed metastatic breast invasive carcinoma.

Keywords // temporal metastasis

PO263 // OTOLOGY // Otology and facial nerve
TB or not TB?
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The middle ear is a very rare site of TB. This may present diagnostic delay. We present a case of middle ear TB with initial diagnostic uncertainty. A 33 year old man presented with a mixed but predominantly conductive hearing loss. In the context of a presumed URTI this was treated as ASOM. However, his symptoms failed to resolve. He underwent ventilation tube insertion with failure of resolution and scanty continuous otorrhoea. CT imaging demonstrated opacification throughout his middle ear and mastoid with no bone destruction. Systemic corticosteroid and antibiotic therapy elicited a significant improvement that was not maintained on cessation of therapy, so cortical mastoidectomy with tympanotomy was performed. A large amount of abnormal material was found in the middle ear. Histological examination of this showed multiple non-caseating granulomas and a putative diagnosis of sarcoidosis was made. He was commenced on prednisolone with some improvement. A HR-Chest demonstrated multiple nodules within the right upper lobe at the lung apex measuring up to 2 cm, some with evidence of calcification. However, lung function tests and a serum ACE were normal. Culture of the material from his middle ear however grew M.tuberculosis at 3 weeks leading to a revision of the diagnosis. Re-examination of all biopsied material revealed 1 AFB. Anti-TB therapy was commenced. His otorrhoea has ceased and he has an intact tympanic membrane, although a mild mixed hearing loss remains.

Keywords // Middle Ear TB Sarcoïd ASOM CSOM

PO264 // OTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Oropharyngeal neurofibroma
A rare case of oropharyngeal neurofibroma, Daniel Monteiro, Isabel Carvalho, Cecília Sousa (Portugal)

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Tumors originating from the nervous system or containing nerve elements and presenting within the oral cavity or pharynx primarily are rarely encountered. Neurofibromas developing about the face and neck most frequently occur in association with generalized neurofibromatosis; solitary neurofibromas are unusual in these regions.

We present a rare case of a neurofibroma of the posterior oropharyngeal wall in a 30-year-old woman. The tumor was excised in its entirety, and the patient's postoperative course was uneventful. No evidence of recurrence was detected during follow-up. Although some sporadic cases of oropharyngeal neurofibroma have been reported, to the best of our knowledge this is the first case of a solitary neurofibroma of the posterior pharyngeal wall to be reported in the English-language literature.

Keywords // Neurofibroma, dysphagia

PO265 // OTOLOGY // Oto-neurosurgery and lateral skull base
Glioblastoma as a cause of cardiac arrest: a rare presentation
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Objective
To present a unique case of secretory Glioblastoma who presented with cardiac arrest.

Case report
A 60 year old lady was found in a state of cardiac arrest at home. She was defibrillated and resuscitated by paramedics and further managed in intensive care unit (ICU) for 48 hours. She was subsequently transferred to cardiology ward for further investigations. She had new onset right sided lower motor neuron facial nerve palsy (House Brackmann grade 6) and paresis of ipsilateral XII cranial nerve. She had fullness in the ipsilateral parotid region. She underwent CT scan of petrous bone which showed mass in the right jugular foramen involving the horizontal portion of facial nerve canal, jugular bulb infiltrating the right hypoglossal nerve canal and extending into the infratemporal fossa. A preliminary diagnosis of Glioblastoma tumour was made. Her cardiology investigations showed no significant pathology. Her urinary normetadrenaline level was found to be double the normal range on two occasions and she was started on alpha and beta receptor blockade treatment for 2 months. Her staging CT scan did not reveal pheochromocytoma. She subsequently underwent pre operative embolisation followed by debulking of tumour. She also received radiotherapy to treat the residual mass.

Conclusion
Glioblastoma can present with cardiac arrest and despite extensive literature search we could not find any report of glioblastoma tumour presenting in a state of cardiac arrest.

Keywords // Jugular foramen tumour
Aims
Case report with literature review

Method
complications that may include dysphagia, thyroiditis, oesophageal perforation, tissues of the throat. A missed fish bone in throat can present with pain. Fish bone is a sharp foreign body that can easily penetrate through the soft tissues of the throat. A missed fish bone in throat can present with complications that may include dysphagia, thyroiditis, oesophageal perforation, deep neck abscesses and vocal cord paralysis.

Aims
To present a scenario where a patient developed an anterior neck abscess and right vocal cord paresis associated with a 5 cm long fish bone stuck in his throat.

Method
Case report with literature review

Results
A 57 year old male presented with a 2 weeks history of dysphagia, odynophagia, right anterior neck swelling and hoarseness. Two weeks ago, he had felt a fish bone stuck in his throat which he eventually got out 3 days later. The examination confirmed a 4 cm right neck swelling associated with the right lobe of thyroid gland. Trans-nasal pharyngolaryngoscopy revealed injected and oedematous right hemilarynx with right vocal cord paresis. Frank pus was aspirated from neck abscess and he responded well to conservative management.

Conclusion
The patients should seek medical attention after choking on a fish bone. Flexible pharyngolaryngoscopy is the standard of care in such cases to confirm the presence of a fish bone in the upper aerodigestive tract. The patients should be alerted to the possibility of developing a neck abscess even after the fish bone had been removed. In select cases, the neck and thyroid abscess can be managed with aspiration and antibiotic treatment.

Keywords: Fish bone, Neck, Abscess, Vocal cord, Paresis

PO266 // OTOTOLOGY // Neuro-Otology and vestibular system
Arachnoid posterior fossa cysts causing audiovestibular symptoms
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Arachnoid cysts of the posterior fossa are definitely uncommon. The precise etiology is unclear, it is believed that they are mainly congenital and result from an aberrant course of the CSF. The middle cranial fossa is the most common location. Only 1% of these cysts occur in the posterior cranial fossa. Moreover, clear oto-neurological symptoms have been even more scarcely reported.

The clinical audiovestibular symptoms and signs, diagnosis and treatment of two patients with arachnoid cysts in the posterior fossa are discussed. A comprehensive review of literature is performed, focused on the pathophysiology, diagnosis and treatment controversies underlying the audiovestibular symptoms.

Arachnoid cysts should be considered in the differential diagnosis of vestibular and/or neurological symptoms that are difficult to explain. The exact pathophysiology underlying the hearing loss, vertigo and tinnitus is unclear. However, the cause / effect of the cysts can not be said with absolute certainty.

The diagnosis of arachnoid cysts is usually incidental. Symptoms, when present, are very variable. In asymptomatic cysts an expectant attitude with serial imaging is usually the best option. The treatment of symptomatic cysts or with considerable growth is often surgical. The sensorineural hearing loss and tinnitus are among the clinical syndromes that do not improve after surgery. Treatment of asymptomatic large cysts is controversial.

Keywords: Cranial posterior fossa; Arachnoid cyst; Audiovestibular symptoms

PO267 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Infratemporal fossa metastasis as the first manifestation of recurrence of breast cancer: a case report.
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Fundacióimènd DÀ–az

Metastatic spread from non-head and neck tumours to the infratemporal fossa region is rare. We present the rare case of an initial manifestation of metastasis in the infratemporal fossa originating from a recurrent carcinoma of the breast. This report highlights the importance of suspecting metastases in patients with a previous history of malignancy. Therefore, thorough history and clinical evaluation is mandatory in any known/treated case of cancer.

Keywords: Infratemporal fossa, breast cancer.

PO268 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Self extrusion of a long fish bone complicated by vocal cord paresis and neck abscess
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Aberdeen Royal Infirmary, Aberdeen, UK

Introduction
Fish bone is a sharp foreign body that can easily penetrate through the soft tissues of the throat. A missed fish bone in throat can present with complications that may include dysphagia, thyroiditis, oesophageal perforation, deep neck abscesses and vocal cord paralysis.

Aims
To present a scenario where a patient developed an anterior neck abscess and right vocal cord paresis associated with a 5 cm long fish bone stuck in his throat.

Method
Case report with literature review

Keywords: Ear surgery, human, healing, myringoplasty, fat graft, surgical complications, quality register

PO269 // OTOTOLOGY // Otolaryngology and facial nerve
Follow-up after fat graft myringoplasty. Data from the Swedish Quality Register of Otorhinolaryngology.
Eva Westman MD, PhD, Malin Berglund (MD), Mattias Fransson (MD, PhD), Malou Hultcrantz (MD, Prof), Erling Englund (PhD), Per Olof Eriksson (MD, PhD) (Sweden)
Umeå University

Objective: To evaluate healing, complications and patient satisfaction after fat graft myringoplasty.
Method: To evaluate the results of the surgical treatment of dry tympanic membrane perforations, data has been collected nationwide in Sweden since 2001 in its present form. In approximately 16% (508 procedures) of the registered surgical procedures, fat graft myringoplasty was performed. Healing of the tympanic membrane and complications were assessed at an outpatient clinic visit including hearing tests. After surgery the patients also answered a questionnaire addressing patient satisfaction.

Results: At follow-up at 6 ** 24 months postoperatively, healed tympanic membranes were found in 82.5% of the patients. None had any chorda tympani symptoms and one patient complained of tinnitus. The most common postoperative complication was infection that occurred in 4.5% of the cases. Of the patients that answered the questionnaire, 81, 5% had less problems with their ears after surgery and 3.5% had more problems. However, when asked whether they were satisfied with the result of the surgery, 13% were not satisfied.

Conclusion: Fat graft myringoplasty results in healing of tympanic membrane perforations in 82.5% of the patients, which is less comparing our results of 89% after conventional myringoplasty. However, the numbers of complications are relatively few and the surgery is less traumatizing to the patient. Further data will be presented.

Keywords: Fish bone, Neck, Abscess, Vocal cord, Paresis
clinopathological characteristics of a massive nasal septal CHS, probably the largest CHS ever reported, in a young neglected girl and emphasize the need for health education in low socioeconomic groups. This particular young girl had not received proper health assessment for 18 months after she first experienced symptoms. During this period, the tumor grew to a massive size, disfigured her entire face, resulted in bilateral visual loss, and eroded her nasal and oral cavities, necessitating a tracheostomy and feeding jejunostomy. Her late presentation combined with the unusual aggressiveness of the tumor precluded any attempts at surgical resection.

Results: 181 FNAs met the inclusion criteria for this study. 86 (48%) FNAs were analysed for adequacy by the on-site CT (test group) and the remaining 95 (52%) did not (control group). The results demonstrate FNA inadequacy with and without on-site CT assessment of adequacy were considered as the control group.

Results: Four patients with the diagnosis of GCT at the head and neck region were found. There were two cases of laryngeal GCT, one that was located at the arytenoid and one involving the hypopharynx. Clinical findings were variable, according to the location and the extent of each lesion. Three of the patients underwent endoscopic examination. In one case a CT scan was performed and showed an expansile, well-circumscribed mass in the larynx. The operative management included wide surgical excision of the lesion in all cases.

Conclusions: Although the accurate preoperative diagnosis is extremely difficult, the appropriate therapeutic intervention offers a radical treatment.

Keywords: // Chondrosarcoma; Head and neck; Nasal septum; surgery

PO270 // OTOLARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Spontaneous rupture of the carotid artery as a rare differential diagnosis of acute neck swelling

Nina Dominas, Matthias Heuer, Stephan Lang, Thomas K. Hoffmann, Jens Greve

Introduction: We report on a 59-year-old man who was referred to our hospital with the suspicion of a large left hypopharyngeal tumor with erosion of the carotid artery.

Methods: The patient had presented with increasing, painful swelling at the left side. In addition to dyspnea, the patient complained a motor deficit of the right arm. The ENT examination revealed an elastic, pressure-sensitive mass at the left side. An inspiratory stridor was caused by a swelling of the left hypopharynx with partial constriction of the larynx and petechial hemorrhages of the mucosa. The neurological examination revealed a distal right arm paresis with impaired fine motor skills. CT of the neck and CT angiography showed an extensive soft-tissue density lesion with a fistula to the left common carotid artery. Additionally, MRI of the brain revealed an acute media infarction left without intracranial hemorrhage.

Results: With a tentative diagnosis of massive hemorrhage due to the rupture of the left common carotid artery, the patient was immediately transferred to the operating room. The operation showed a ruptured carotid artery with plaque formation. All plaques were removed by a thromboendarterectomy and the vessel wall was occluded with a Goretex® patch angioplasty. The postoperative course was without pathological findings.

Conclusion: Spontaneous rupture of the carotid artery is a rare but life-threatening differential diagnosis of acute neck swelling and should keep clearly in mind.

Keywords: // neck swelling; carotid artery

PO271 // OTOLARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Depression and Anxiety in Head and Neck Cancer "
A proactive approach.

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Introduction: Head and Neck patients experience some of the highest rates of depression of all oncology patients. Studies have previously shown that depression is highest at diagnosis, during treatment and in the 6 months following treatment. It has also previously been shown that depression and anxiety are poorly diagnosed by Oncologists and ENT surgeons and are often missed. We aimed to introduce a simple screening tool to a busy joint head and neck clinic in large District General Hospital in the UK.

Methods: The Hospital Anxiety and Depression Scale (HADS), a sensitive screening tool for depression in head and neck patients, was distributed to all patients attending a weekly joint head and neck clinic over a 2 month period.

Results: 45 patients completed the screening tool. 3 (7%) patients displayed clinical caseness for depression.

Keywords: // Granular cell tumor; Abrikossoff

PO272 // OTOLARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Granular cell (Abrikossoff) tumor in head and neck region: a retrospective chart review.

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General Hospital of Volos

Objective: Granular cell tumors (GCTs) are rare, usually benign lesions that can develop in various parts of the body. The most common site of origin is the head and neck region. The clinical presentation depends on the location and the size of the lesion. Preoperative diagnosis is extremely difficult. Diagnosis should be made histopathologically. We evaluated our series of GCTs in an effort to define better the clinical presentation, imaging characteristics, and surgical management of this type of tumor.

Methods: The medical records of patients with the diagnosis of GCT located at the head and neck region over a 10-year period were reviewed. All cases had pathologic confirmation. Demographic information, clinical presentation, imaging results, and operative findings were recorded.

Results: Four patients with the diagnosis of GCT at the head and neck region were found. There were two cases of laryngeal GCT, one that was located at the arytenoid and one involving the hypopharynx. Clinical findings were variable, according to the location and the extent of each lesion. Three of the patients underwent endoscopic examination. In one case a CT scan was performed and showed an expansile, well-circumscribed mass in the larynx. The operative management included wide surgical excision of the lesion in all cases.

Conclusion: Although the accurate preoperative diagnosis is extremely difficult, the appropriate therapeutic intervention offers a radical treatment.

Keywords: // Granular cell tumor; Abrikossoff

PO273 // OTOLARYNGOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

On-site cytotechnician evaluation of adequacy of fine-needle aspiration for cytology in a neck lump clinic: a retrospective observational study

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Introduction: The gold standard for assessing neck lumps is a one-stop clinic with an on-site cytopathologist who can provide an FNA report immediately. This has considerable resource implications and is not available in all units. In our department, surgeons perform FNAs guided by palpation which are evaluated for specimen adequacy by an on-site cytopathologist (CT) who comments on the adequacy of the sample. This study evaluates the impact of the CT on the adequacy of neck lump FNAs.

Methods: Retrospective observational study of FNAs performed from June 2010 to February 2012. The FNAs performed at the neck lump clinic with on-site CT assessment of adequacy were considered as the test group, and all other neck lump FNAs from other sources without on-site CT assessment of adequacy were considered as the control group.

Results: 181 FNAs met the inclusion criteria for this study. 86 (48%) FNAs were analysed for adequacy by the on-site CT (test group) and the remaining 95 (52%) did not (control group). The results demonstrate FNA inadequacy with and without on-site CT assessment of adequacy were considered as the control group.
equivalent to an absolute risk reduction of an inadequate FNA of 14%, which equates to a "number needed to treat" (NNT) of 7.1, i.e. the CT needs to assess 7.1 FNAs to prevent 1 inadequate specimen.

Conclusion: In neck lump clinics where on-site cytopathology is not available, an on-site CT is a compromise measure which does reduce the number of inadequate FNAs.

Keywords // Fine needle aspiration, cytotecnican, neck lump, cytopathologist

PO276 // OTOLOGY // Oto-neurosurgery and lateral skull base

Management of cerebrospinal fluid fistulas in middle-ear and mastoid suppurations surgery ““ 20 years experience

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Objective. The aim of the study is to evaluate and to present our experience in diagnosis and treatment of cerebrospinal fluid leak which occurred during middle-ear and mastoid suppurations.

Method. We present, in a retrospective study, our 20 years experience in middle-ear and mastoid surgery, analyzing more than 1600 patients with mastoidectomy, undertaken in the Institute of Phonoaudiology and ENT Functional Surgery ““ Bucharest since 1992. We recorded 19 cases of CSF fistula of which 8 were cured with conservative treatment and 11 had to undergo surgery. Data were collected from registry files.

Conclusion. The resolution of these cases required collaboration with the neurosurgeon and was different depending on the evolution of surgical techniques and materials as well as on ENT surgeon’s increasing experience.

Keywords // CEREBROSPINAL FLUID FISTULA, MIDDLE-EAR AND MASTOID SURGERY,

PO277 // OTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

NASOPHARYNX PERFORATION AND MASSIVE EMPHYSEMA

Centro Hospitalar e Universitário de Coimbra

Nasogastric intubation is a very frequently performed procedure. Complications are very uncommon.

Iatrogenic perforation of the digestive tract is increasing with more aggressive diagnostic and therapeutic instrumentation. Nasopharynx perforation is very uncommon, nevertheless it might have lethal consequences.

Case report of a patient who had a massive head, neck and thoracic subcutaneous emphysema caused by perforation of the nasopharynx after a traumatic insertion of a nasogastric tube. A critical appraisal was performed of papers found in pubmed searching for “nasopharynx perforation”.

A female patient, 93 years-old was admitted to surgery ward with acute cholecystitis. After deterioration of the clinical condition, an attempt to introduce a nasogastric tube was performed. It was difficult and traumatic, leading to a perforation of the posterior wall of the nasopharynx, confirmed by nasofibroscopy. A massive skull, facial, cervical and thoracic sub-cutaneous emphysema was confirmed by CT scan. Conservative management solved the complication.

Nasopharynx perforation with massive emphysema after nasogastric tube insertion is rare. There are only 3 cases reported in the literature. Initially, treatment should be conservative to ensure normal wound healing. A more aggressive therapy should sought only after signs of infection descending to the mediastinum to avoid lethal complications.

Keywords // nasopharynx, perforation, emphysema

PO278 // OTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Extramedullary plasmacytoma of the nasopharynx - a case report

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Introduction:
Plasmacytoma is a monoclonal neoplastic proliferation of plasma cells. Extramedullary plasmacytoma is a rare tumour, accounting for about 3% of all plasma cells neoplastic and about 1% of head and neck cancer, the most common site being in the upper airway structures.

Objective:
Case report of a nasopharynx plasmacytoma and review of current literature.

Methods:
Case report of a male patient, 52 years old, presented to ENT department in 2008 with a submucosal tumour in the nasopharynx, biopsied showed a nasopharynx plasmacytoma. Multiple myeloma was excluded. Radiotherapy was the primary treatment of the tumour classified at stage I. In 2009, it was diagnosed right testicle plasmacytoma and treatment was a radical orchiectomy. Complete clinical remission was accomplished until 2012. Patient presented nasopharynx plasmacytoma recurrence, and tumour was excised. We opted to follow up of the patient trimestrally.

Conclusion:
Extramedullary plasmacytoma is uncommon. Faced with a neoplastic lesion of the nasopharynx, it is mandatory to establish the histological diagnosis. This tumour required a thorough clinical exam to screen possible systemic disease and should be manage in collaboration with a hematologist. Treatment consists in tumour excision and adjuvant radiotherapy, if necessary. It is mandatory to have follow up consult by ENT and Hematologist, because of the risk of local recurrence and multiple myeloma.

Keywords // nasopharynx; plasmacytoma

PO279 // OTOLGY // Otology and facial nerve
Sudden sensorineural deafness common prognosis are not universal
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Introduction: Sudden sensorineural deafness (SSD) prognosis is variable and there is not an universal approach and treatment.

Material and methods: Retrospective study of 69 consecutive patients with the diagnosis of SSD. Age, sex, affected ear, accompanying symptoms, treatment, pure tone average pre and post treatment, mean gain and cardiovascular risk factors were recorded.

Results: We observed no correlation between common prognostic factor associated to SSD including: younger age, reduced time between diagnosis and treatment, an ascendant audiometric curve. We found a higher incidence of cardiovascular comorbidities in the group of patients with total deafness.

Conclusion: Our study showed that most common prognostic factors associated to SSD in the literature are not valid when applied to our population. The higher incidence of cardiovascular risk factors in the group of total deafness and its worst recovery suggests it plays an important role as prognostic factors. These data supports the vascular theory of the etiology of SSD.

Keywords // Hearing Loss; Sudden; Risk Factors

PO28 // OTOLGY // Cochlear and middle ear implants
Complications and clinical analysis of 673 cochlear implantations
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Department of Otolaryngology, XUJING Hospital, The Fourth Military Medical University

Objectives: To investigate complications of cochlear implantation for prevention and therapy.

Study Design: Retrospective study at a tertiary referral center.

Methods: The patients (n=673) who received cochlear implants in our department between 2000 and 2013 were followed up (range, 6 months to 10 years). The complications were identified as "minor" or "major". All complications were systematically reviewed, and their causes were analyzed for prevention and therapy.

Results: There were a total of 33 complications (4.9%). The minor were 26 cases (3.9%), including postoperative subcutaneous hematoma in 14 cases, acute otitis media in 2 cases, postoperative wound infection in 2 cases, delayed facial paralysis in 1 case, chronic facial spasm in 1 case, and severe dizziness in 6 cases. The major were 7 cases (1.1%), including cerebrospinal fluid leakage in 2 cases, implant-related infection and extrusion in 2 cases, tympanic membrane perforation induced electrode exposed in 1 case, implantation failure due to cochlear ossification in 1 case, and magnet displacement in 1 case.

Conclusions: Cochlear implantation is a safe and reliable operation; but it is still a serious problem to lower the incidence of complications.

Keywords // cochlear implantation complications prevention therapy

PO280 // OTOLGY // Neuro-Otology and vestibular system
Vertigo and Chiari Malformation
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Hospital de Santa Maria

We present a rare case of a female patient, sent to our Department by the Department of Neurology of our hospital, with vertigo. The patient also had disphagia, dysphonias, nasal regurgitation, headache, neck pain, diplopia, blurred vision and gradual weakening of the motor ability on the left side of the body. The patient had had a surgery to treat Chiari I malformation thirty years ago. The diagnostic hypothesis of a Chiari malformation was denied by the normal MRI. The vestibular exams showed a central vertigo associated with late onset of foramén magnumÂ’s surgery complications.

Keywords // Vertigo

PO281 // OTOLGY // Oncology, head and neck, oral cavity, pharynx and trachea
Surgical approach of squamous cell carcinoma of the maxillary sinus: case report
Rebecca Heidrich Thoen, Leonardo Guimarães Rangel ; Andrea Goldwasser David ; Carlos Barone Junior ; Debora Petrungaro Migueis (Brazil)
Hospital Universitário Pedro Ernesto

Introduction:The squamous cell carcinoma is one of the most diagnosed cancers, being common the commitment of head and neck region. The squamous carcinoma of the maxillary sinus correspond to 3% of the head and neck tumors and 80% of the sinuses tumors. Technological improvements have allowed more surgical and reconstructive therapies, that provide better quality of life for the patients.

Case report:Patient C.M.A, 28 years old, masculine, in clinical following at the Otolaryngology Service of Hospital Universitário Pedro Ernesto, Rio de Janeiro, Brazil after treatment for squamous carcinoma of the maxillary sinus. Seven months after the treatment, returned to the clinical practice with a mass in the left maxillary region. The patient underwent maxilllectomy and facial reconstruction with arm free flap.

Discussion:Maxillary tumors are frequently asymptomatic until advanced stages. Important predictors of local-regional control include the tumor size and negative surgical margins. Our patient was treated with 76 Gy radiotherapy and 3 cycles of chemotherapy but it was necessary a rescue surgery afterwards. We have chosen a reconstruction with arm free flap in order to preserve the functionality and aesthetics of a young patient.

Conclusion:Maxillary sinuses tumors are a challenge because of its advanced presentation and need of multiple therapies. New technologies are allowing less invasive treatments and reconstructive surgery for a better quality of life.

Keywords // Squamous cell carcinoma, maxillary sinus, reconstruction surgery

PO282 // OTOLGY // Oncology, head and neck, oral cavity, pharynx and trachea
Paracoccidioidomycosis in oral cavity simulating cancer “ Case Report
Rebecca Heidrich Thoen, Leonardo Guimarães Rangel ; Andrea Goldwasser David ; Carlos Barone Junior ; Natalia Raye Maciel (Brazil)
Hospital Universitário Pedro Ernesto

Introduction:Paracoccidioidomycosis is a granulomatous systemic disease endemic in Latin America whose etiological agent is the fungus Paracoccidioides brasiliensis. Configurates as the 8º cause of death by chronic infectious diseases in Brazil.
Case Report: Patient F.L.S, male, 58 years old, came to the Head and Neck Surgery clinical practice from Hospital Universitario Pedro Ernesto referring progressive dysphagia for 6 months and loss of 20 kg in the period. Past history of smoking (60 packs/year) and previous work in rural area for 4 years. In the physical examination, it was observed an infiltrative lesion in the base of tongue and uvula without any other abnormalities. A incisional biopsy was performed for the suspicion of cancer. The anathomorphological result demonstrated Paracoccidioidomycosis. The patient was referred to the Infectious-Disease Department and treated with Sulphonamides with good clinical evolution.

Discussion: In the chronic form of Paracoccidioidomycosis is frequent to find lesions in mucosa, skin, lymphnodes and adrenal glands. Oral lesions may be present in up to 80% of the patients. The typical lesion is granulomatous, ulcerated, marked by petechial hemorrhage. When the lesion is unique, the main differential diagnosis is cancer. Conclusion: In oral lesions, despite typical characteristics from determinated pathologies, it is important to always search for the differential diagnosis of other affections less common in daily practice.

Keywords // Paracoccidioidomycosis, oral cavity

PO283 // OTOTOLOGY // Otolaryngology, head and neck, oral cavity, pharynx and trachea
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Guy’s and St. Thomas’ Hospital

Acute kidney injury (AKI) is a cause of significant morbidity and mortality, highlighted in the National Confidential Enquiry into Patient Outcome and Death (NCEPOD) report on AKI. Guidelines from the UK Renal Association recommend that all patients at risk of AKI should be identified and appropriate preventative measures initiated in a timely manner.

The aim of the audit was to determine in patients undergoing head and neck surgery: 1. If a pre-operative assessment for AKI was completed 2. Whether AKI was recognised for those with identifiable AKI 3. If AKI resulted in adverse outcomes for patients

A retrospective analysis was completed, for all head and neck patients admitted to the department from 01/09/2012 to 31/12/2012. 101 patients met the inclusion criteria. None of the patients had a documented pre-operative risk assessment for AKI. 12% (n=12) met the definition criteria (KDOQI standards) for AKI, with 75% (n=9) had grade 1 (serum creatinine > 1.5-1.9 x baseline) and 25% (n=3) had grade 2 (serum creatinine >2.2 x baseline). Only one patient with AKI was identified, through appropriate documentation. Mortality in the AKI group was higher at 42% (n=5) vs. 4.5% (n=89) in those without AKI.

The results show that pre-operative risk assessment and recognition of patients with AKI is not adequately documented. A root-cause analysis was performed to assess for impact on patient care and to develop solutions, to enable completion of the full audit cycle.

Keywords // AKI Audit Acute Kidney Injury Renal

PO284 // OTOTOLOGY // Audiology
Noise in the Military environment. Sensorineural hearing loss among the military personnel.
ELSIA MUZHA, SUELA SALLAVACI, PIERIN RADOVANI ()

Objective: Evaluation of exposures to loud noises approximately 80dB and their impact on people hearing for a period of several years .

Material and Methods: We examined 100 patients aged 19 -52 years old -male ,students of Military academy and personnel of the Air Force. The patient were categorized in 5 groups :

Group A : the control group ( 30 students of Military Academy )
Group B : 5 years of work ( 15 patients ,personnel of the Air Force )
Group C : 5 -10 years of work ( 15 patients )
Group D :10-15 years of work ( 20 patients )
Group E :15-20 years of work ( 20 patients )

All subject underwent standart pure -tone audiometry.

Results: Group A ( the control group ) resulted normal 20 dB.
Group B: 2 patients or 13,3 % hearing loss of 20-40 dB at 4000 Hz. Normal 86,7%.
Group C : Normoacoustic 8 patients or 53,3 %. Hearing loss of 20-40dB at 4000Hz 5 patients or 33,3 %. Hearing loss of 40-70 % 2 patients or 13.33% at 4000 Hz .
Group D :Hearing loss of 20-40 dB at 3000Hz, 4000Hz ,6000Hz .10 patients or 50%.Hearig loss of 40-70 db at 3000Hz, 4000Hz ,6000Hz ,10 patients or 50%
Group E :Hearing loss of 20-40 dB at 3000Hz, 4000Hz ,6000Hz ,5 patients or 25%.Hearing loss of 40-70db 12 patients or 60% .Hearing loss of 70-90 dB at 3000Hz, 4000Hz ,6000Hz,3 patients or 15 %.

Conclusion .The result of audiologic investigation suggest that exposure to loud noises approximately 80dB for several years caused sensorineural hearing loss among military personnel.

Keywords // NOICE, HEARING LOSS, MILITARY ENVIRONMENT

PO29 // OTOTOLOGY // Otolaryngology and facial nerve
Cartilage palisades vs temporalis fascia in type 1 tympanoplasty : a comparative study
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Vardhaman Mahavir Medical College and Safdarjung Hospital

Objectives: To compare post operative outcomes between use of temporalis fascia and full thickness broad cartilage palisades as graft in type 1 tympanoplasty.

Methods: The study conducted at a tertiary referral institute included 90 patients with mucosal type chronic otitis media requiring type 1 tympanoplasty with 60/30 distribution of cases for fascia and cartilage palisades respectively. The fascia group consisted of primary cases in adults and excluded revision cases, near total or total perforations and pediatric cases. The cartilage group included pediatric, revision cases and near total or total perforations. Fascia group utilized the underlay technique for grafting whereas the cartilage group utilized tragal full thickness broad cartilage palisades with attached perichondrium on one side placed in an underlay or over-underlay manner. Postoperative graft take up and hearing outcomes were evaluated after 6 months with subjective assessment and pure tone audiometry.

Results: The graft take up rate was 81.67% in fascia group and 93.33% in cartilage palisade group. The mean air bone gap pre and postoperatively in the fascia group was 30.43 dB and 17.5 dB respectively whereas the same for cartilage group was 29 dB and 7.33 dB respectively.

Conclusion: Cartilage grafting with full thickness palisades is more effective than fascia as a graft material, more importantly in “difficult” tympanoplasties fraught with higher failure rates otherwise.

Keywords // cartilage palisade; temporalis fascia; tympanoplasty

PO30 // OTOTOLOGY // Cochlear and middle ear implants
Impact of cochlear implantation on cognitive factors in the elderly
(France)
University hospital

Objectives: To investigate the relationships between cognitive function and hearing rehabilitation using cochlear implant in patients > 65 years.

Study design: 95 patients were prospectively included. The mean age was 72 (range: 54-85). Patients were evaluated before implantation, 6 and 12 months after activation. Speech comprehension score was calculated using disyllabic words in quiet and at different SNR. Cognitive function was assessed using a battery of tests evaluating attention, memory, orientation, executive function, mental flexibility, fluency. Quality of life was evaluated using NUEGEN questionnaire.

Results: Cochlear implantation improved speech scores in quiet and noise (p

Keywords // cochlear implant, elderly, cognitive function, predictive factors

PO31 // OTOTOLOGY // Cochlear and middle ear implants
Speech performance and sound localization in a complex noisy environment: comparison between patients sequentially and simultaneously implanted.

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Universtary Hospital

Objective: Evaluation in quiet and noise of speech performance, localization ability and quality of life in 32 adult patients sequentially and comparison to 27 patients simultaneously implanted, and previously evaluated with the same protocol [Mosnier, Audiol Neurootol 2009].

Methods: The mean age was 55 years (19-74). Patients received their 2nd CI from 0.5 to 14 years after the first CI. Subjects were assessed before, and 6 and 12 months after the second CI. Speech perception tests and sound localization measurements were performed in quiet and noise using disyllabic words, with a cocktail-party background noise coming from 5 loudspeakers. Quality of life was assessed using NIMEGEN questionnaire.

Results: A bilateral advantage was observed at 12 months in quiet and noise in bilateral condition compared to the results obtained with the first and the second CI. Speech scores were asymmetrical in 53% of the patients. In 59% of cases, the first implanted ear obtained the better scores. The sound localization ability and the scores of the NIMEGEN questionnaire were improved compared to monaural conditions as soon as 6 months after the second CI.

Conclusion: Bilateral sequential implantation provides improvement of sound localization and of quality of life, as soon as 6 months after the second CI. A significant improvement of speech recognition was observed 12 months after the second implantation in quiet and noise compared to the first and the second CI.

Keywords // bilateral cochlear implantation, adults, speech performance, sound localization, quality of life

PO34 // OTOLGY // Otology and facial nerve

Functional results of tympanoplasty - PORP vs TORP

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100 patients who have undergone surgery were considered eligible to the study. The results of the pure tone audiometry that was performed 7 days before tympanoplasty, and then 3 months, 1 year and 3 years after surgery were assessed, with patients categorized depending on the type of tympanoplasty according to Tos. Type II tympanoplasty involved implantation of partial ossicular replacement prosthesis, and type III tympanoplasty involved reconstruction with total ossicular replacement with the use of appropriately prepared homogenous material. The air-bone gap reduction was greatest after type I tympanoplasty. When it comes to all four types of tympanoplasty, hearing improvement was achieved at 3 months and 1 year after surgery based on the magnitude of the average air-bone gap reduction (p

Keywords // tympanoplasty, PORP, TORP, tonal audiometry

PO35 // OTOLGY // Cochlear and middle ear implants

Long term audiological and quality of life outcomes in patients implanted with Vibrant MedEl

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Objectives: To assess the long term auditory and quality of life (QOL) outcomes in patients implanted with Vibrant MedEl devices.

Setting: Academic tertiary referral center

Methods: Patients implanted were systematically assessed in aided and unaided conditions with free-field PTA, speech audiometry, speech in noise audiometry (RSB +10, +5, 0, -5 dB), and were evaluated with APHAB and IOI-HA questionnaires.

Results: Twenty three implanted ears were evaluated in 22 patients (Mean age 55 yrs). Mean follow-up was 14 yrs and 1 month. Unaided PTA thresholds at 250, 500, 1000, 2000, 3000, 4000; and 8000 Hz were respectively 28.5, 42.2, 47.0, 63.7, 72.8, 83.5, 73.5 dB Gain. With Vibrant was 4.6, 9.6, 15.0, 27.0, 27.6, 30.2, 14.1 dB at the same frequencies. Speech in noise gain was 29.6% at SNR+0, 36.4% at SNR+5, 23.6% at SNR0, 13.7% at SNR-5. Changes in APHAB questionaire showed an improvement for every dimension: ease of communication (gain 29.7), background noise (gain 36.75), reverberation (gain 32.0), and aversiveness (gain -15.07). IOI-HA questionnaire displayed fair results after implantation with a mean score of 4.4 for use, 3.9 for benefit, 4.1 for limitations in residual activity, 3.5 for satisfaction, 3.9 for impact on others and 4 for quality of life.

Conclusion: Audiological results of patients implanted with Vibrant are stable over time. Improvements are also noticed in every noisy condition. Hearing related QOL of patients is significantly increased.

Keywords // middle ear implant, quality of life, speech in noise

PO36 // OTOLGY // Cochlear and middle ear implants

Factors affecting outcomes in Romanian cochlear implanted children

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University of Medicine and Pharmacy

Aims: Cochlear implant is nowadays the best solution for patients with profound hearing loss, who do not evolve favorable with hearing aids. Our study aims to assess the factors that influence the rehabilitation outcomes in Romanian cochlear implanted children.

Materials, Methods: The study was conducted on a sample of 75 children cochlear implanted in our department since 2003 to 2011. Inclusion criteria: children with prelingual severe-to-profound sensorineural hearing loss, minimum of 6 months experience with the processor. The assessment was based on CAPR and SIR scores and the results were reported to the Nottingham Children’s Implant Profile prognostic factors.

Results: Good results were correlated with the young age of implantation, preoperatively permanent wearing of hearing aids, no associated diseases, proper educational environment, child’s cognitive abilities, learning skills and attention, which on depends the learning process that followed implantation. Poor auditory-verbal outcomes were associated with the presence of other diseases, inadequate educational environment with family or child exaggerated, unrealistic expectations, less developed cognitive skills, lack of language, lack of learning and attention training.

Conclusions: Cochlear implant facilitates patient access to speech sounds but the performance to understand and produce speech depends largely on the child’s intellect, the environment and how it is educated but also by desire to communicate.

Keywords // cochlear implants, outcomes, prognostic factors

PO37 // OTOLGY // Otology and facial nerve

Management of complication in chronic otitis media with cholesteatoma

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Introduction: Cholesteatoma remains one of the most challenging ear diseases, with possible serious complications. Its presence requires surgical intervention and the main goal is to achieve a safe, dry ear and to improve the hearing.

Methods: 875 patients were treated for cholesteatoma in our department between 2001 and 2011. We performed both open and closed technique, depending on extension, bone erosion and complications, followed by second-look surgery in most of the closed-technique cases. Most patients with complications underwent canal-wall-down technique.

Results: The closed technique was the treatment of choice in 69.2% of cases, most uncomplicated cholesteatomas. In 30.6% we’ve chose the open technique for different reasons including complications. The second look surgery was done in 57.3% of cases. Residual cholesteatomas were noticed in 17% of cases and the recurrent cholesteatomas in 32% of cases. Facial palsy was found in 1.48% of cholesteatoma cases, labyrinthine fistulae in 2.51% of cases, intracranial abscess in 1.14% and sigmoid sinus thrombosis in 1.71% cases. 0.8% of patients had meningitis due to cholesteatoma.

Conclusions: Cholesteatoma is a serious condition which affects both children and adults. Closed technique is recommended in order to restore the hearing which is very important for a proper quality of life but serious complications needs open techniques.

Keywords // cholesteatoma, complications, management

PO38 // OTOLGY // Oncology, head and neck, oral cavity, pharynx and trachea
Sino-Nasal Malignancy; Presentation and outcomes
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Background
Sino-nasal malignancies (SNM) are uncommon and account for only 1% of all malignancies and 3% to 5% of all head and neck malignancies.

Aim
This audit examines the presentation and management outcomes of SNM and compared with European Position Paper (EPDP) on Endoscopic Management of Tumours of the Nose, Paranasal Sinuses and Skull Base in 2010.

Methods
This is a retrospective audit of all patients diagnosed with Sino-nasal malignancy (SNM) in a tertiary referral hospital over a 5 year period. The clinical records and Web PACS data of patients was reviewed.

Results
30 patients with SNM were identified out of 570 head and neck cancer patients (5.26%). There were 19 males and 11 females (1.7:1). The mean age was 65.6 years. The Nasal cavity was the most common site for presentation (56.6%) followed by maxillary sinus (26.6%). 50% of patients had a SCC and 26.6% had a Malignant Melanoma (MM).CT of the sinuses was the initial investigation. Half of the patients presented at stage IV of the cancer and 20% at stage III. MM had 50% recurrence rate and 62.5% 5 year survival rate. Overall 30% mortality rate for SNM in 5 years is seen in our study.

Conclusion
Later stage presentation of sinonasal tumor has resulted in increased mortality of patient in our series and malignant melanoma is the second highest malignancy in this series with a high recurrence rate 50%.

Keywords // Sino-Nasal Malignancy, Head and neck cancer, Malignant Melanoma, Endoscopic surgery

PO40 // OTOMETRY// Otoneurosurgery and lateral skull base
Enlarged Translabyrinthine Approach With Transapical Extension in the Management of Giant Vestibular Schwannomas
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Gruppo Otoligico

Objective: To describe and analyze the main outcomes achieved in a series of patients with sporadic vestibular schwannoma (VS) larger than 40 mm in extrameatal diameter, defined as giant VS, submitted to microsurgery by the enlarged translabyrinthine approach with transapical extension (ETLA-TA).

Study Design: Retrospective chart review.

Patients: A retrospective chart review was conducted on 2,133 patients who underwent surgery for VS from April 1987 to July 2009. One hundred ten cases of giant VS were elected for analysis.

Main Outcome Measures: Extent of removal, residual or recurrent disease, facial nerve integrity during surgery, long-term facial nerve function, and postoperative complications.

Results: Total removal was accomplished in 91.8% of cases. In 5 patients (4.5%), total removal was accomplished in 2 stages. Near-total removal was performed in 7 patients (6.3%). The facial nerve was anatomically preserved in 76.4% of cases. Intra-operative facial nerve reconstruction was performed in 8 cases. Facial nerve function after 1 year of follow-up was House-Brackmann grades I to III in 75% of cases. There were no deaths in this series. Neurovascular life-threatening complications occurred in 2 patients. Cerebrospinal fluid leak was present in 1.8% of cases.

Conclusion: Results indicate the ETLA-TA as an elective approach for removal of giant VS. The method permits achievement of a high rate of total removal with low incidence of complications.

Keywords // Acoustic neuroma; Enlarged translabyrinthine approach; Giant vestibular schwannoma; Surgery; Transapical extension

PO41 // OTOMETRY// Otoneurosurgery and lateral skull base
Acoustic neuroma management: a three-year experience
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Introduction
Otoneurosurgery is a new discipline in Algeria; it began in our ENT department of KOUBA hospital in 2010. We started this field in the very beginning of 2010 after an important training program called "TRANSMEDEAST" which was an inter Mediterranean courses and training program during 2 years under the leadership of PR Jaques MAGNAN of Marseilles, which provide us a good level in otoneurosurgery and skull base surgery.

Material and method
The purpose of this work is to review the outcome of 31 consecutive acoustic neuroma patients, managed by an otoneurosurgical team involving our Department of Otolaryngology head and neck surgery of KOUBA, Algiers, Algeria and 2 different departments of neurosurgery, over a 3-year period (2010 to 2012).

The majority of patients underwent operative intervention, utilizing the middle cranial fossa, retrosigmoid, or most commonly, the translabyrinthine approach depending on the tumour size and level of residual hearing. However some patients are managed by "wait and scan" policy.

Results
Preoperative, intraoperative, and postoperative data are analyzed including complications of surgery. Overall, our results and complications are comparable to other large acoustic neuroma series in the literature.

Conclusion
Early diagnosis of acoustic neuromas is the most important factor in the prognosis and is one of the most important conquests of neurophysiology and modern neuroimaging.

Keywords // Acoustic neuroma - vestibular schwannoma, microsurgical resection, translabyrinthine approach, retrosigmoid approach, middle fossa approach

PO39 // OTOMETRY // Otology and facial nerve
Small Intestinal Submucosa (SurgiSIS) Myringoplasty in Children: a 11-year Randomized Controlled Study
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Objective
A novel bioactive material for tissue graft, derived from porcine small intestinal submucosa has been marketed. This material promotes early vessel growth, provides scaffolding for the remodeling tissues, and is inexpensive and ready-to-use. We evaluated efficacy, safety, and surgery time of porcine small intestinal submucosa (SIS) myringoplasty compared with patient’s temporalis fascia (PTF) repair in children.

Study Design: prospective, two-group (SIS, and PTF) randomized, blinded study at a tertiary-care pediatric institution.

Methods: 410 children with tympanic membrane repair were randomly assigned to receive SIS or PTF myringoplasty. Primary outcomes were the healing of the TM and surgical time. Long-term follow-up ranging from 11 to 2 years was obtained in all enrolled children.

Results: Four-hundred-thirty-two TM (217 in the SIS and 215 in the PTF groups) perforations were treated. There were 216 stable TM closures in the SIS arm after 5 years (209 stable TM closures—96.3% at the end of follow-up) and 214 stable closures in the PTF arm after 5 years (204 TM healed—94.8% in the PTF arm at the end of follow-up). TM closure was higher in the SIS arm. Results were not statistically significant at end of follow-up (OR=0.4, 95% CI 0.12-1.41). SIS myringoplasty yielded reduced surgical time. No reaction to PIM was encountered.

Conclusion: SIS myringoplasty is a safe and effective method for TM closure in children with reduced surgical time, as compared to PTF.

Keywords // myringoplasty; children; acellular matrix; bioscaffold; porcine submucosa
PO42 // OTOTOLOGY // Otoneurosurgery and lateral skull base
Our Experience in management of Tympanojugular Paragangliomas
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Introduction
Tympanojugular paragangliomas are benign and slow growing lesions of the lateral skull base. Due to their localization and vascularity, they represent a surgical challenge. Treatment modalities include preoperative embolization, surgical removal and irradiation.

Material and Methods
In a time period of 5 years (2008**2012), we treated 6 tympanojugular paragangliomas in the Department of Otorhinolaryngology, Head and Neck Surgery, KOUBA hospital Algiers, Algeria. 5 were operated by infratemporal Fish's approach, 1 had irradiation and embolization.

Results
The most common symptom was a hearing loss and pulsating tinnitus. The majority of tumors were Fisch class C2 and C3. There were 3 tumors spreading intracranially (2 class D1 and 1 class D2).

The major surgical complication was palsy of the cranial nerves IX**XII. Minor complications included a CSF leak shortly after surgery. Facial nerve function was [House-Brackmann scale] grade 4 to 5 in operated patients with a complete facial function recovery in 3 to 6 months after. It was not necessary to resect facial nerve portion for any tumor infiltration.

Conclusion
Large tympanojugular paragangliomas represent a therapeutic challenge. Due to their localization, the complete tumor removal can be burdened with a higher postoperative morbidity, which is sometimes long and lowers patients’ life quality. An other management option can be radiation and/or embolization with a place in some cases for “wait and scan” strategy.

Keywords // Jugular - Paraganglioma - Surgical management - infratemporal approach

PO43 // OTOTOLOGY // Cochlear and middle ear implants
Cochlear implantation for children without facial never monitor. Our experience
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We performed 554 operations on pediatric patients suffering from sensorineural hearing loss from May,2005 to August,2012. Here's our experience. Firstly, clean up the outer ear canal before operation under general anesthesia. The mastoid should be drilled out for better drainage by exposing the bony wall of the outer ear canal. The estimated position of the facial nerve should be determined by drilling along the extension line of the short limb of the incus carefully and medially. The facial recess is generally opened 8mm downward from the short limb of the incus, the stapes with the incudostapedial joint, and the stapedius tendon are visible. The cochleostomy is created at the 3-5 o'clock anteroinferior direction of the round window membrane. The stimulating electrode is grasped into the scala tympani. Pieces of temporalis muscle are tailored for placement around the electrode to prevent basal electrodes from being forced away and perilymph fistula. The reference electrode is securely placed under the temporalis muscle. As a result, all the electrodes are inserted into the scala tympani smoothly, with no electrodes out, facial paralysis or severe syndromes after the operations. Postoperative subsequent visit for the outer ear canal check is important to find and treat external otitis and secretory otitis media timely.

Keywords // cochlear implantation, children, surgery

PO44 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
FEASIBILITY AND SURGERY ACCEPTABILITY OF VISUALISATION WITH LUGOL’S IODINE (VILI) IN THE LIHNSCS TRIAL
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Bradford Institute for Health Research

Introduction: Residual margin dysplasia is a cause of disease failure in SCCN. The LIHNSCS trial is a multicentre RCT assessing the effectiveness of visualisation with Lugol’s iodine (VILI) vital staining to reduce margin dysplasia at resection of oral and oropharyngeal SCC. We investigated the feasibility of the technique in head and neck surgical practice and the acceptability of the technique to surgeons.

Methods: Questionnaire survey and telephone interviews were conducted with surgeons participating in the LIHNSCS RCT. Data collected included surgeon views on trial participation, difficulties encountered in the trial processes including consent, maintenance of equipoise and randomization. Information on acceptability of the VILI technique was obtained and analysed.

Results: 40 surgeons in 18 centres were cleared to recruit to the study and 28 had recruited patients when this data was obtained. The importance of involving patients in RCTs was recognised though cases were reported where patients requested use of VILI rather than randomization in the trial. The VILI technique did not add significantly to overall surgical time. Further detailed analysis will be presented.

Conclusion: UK Head and Neck Surgeons recognize the high level importance of recruitment to clinical trials in surgery. Difficulties encountered in this trial have not restricted recruitment of eligible patients. The VILI technique has high acceptability among surgeons recruiting to the LIHNSCS trial.

Keywords // LIHNSCS, SCC

PO45 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Delays in Opening RCTs in Maxillofacial Surgery; Experience from the LIHNSCS Trial.
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Bradford Institute for Health Research

Introduction: Setting up and running clinical trials can be a time consuming, confusing and daunting process. Our experience in collaborating with over 25 centres for the LIHNSCS Trial provides a number of examples of delays, to which innovative solutions were sought. We report this experience here.

Methods: A comprehensive search of trial records from all sites currently in setup and those openly recruiting was performed to ascertain issues delaying centre opening. We calculated time from expression of first interest (EOI) to opening and from opening to first patient recruited.

Results: After launch 3 years passed before another centre recruited. There were 4 LIHNSCS specific issues and a number of generic trial issues in open sites. The average time taken from EOI to opening was 250.5 days (range 114-485); and average time from opening to recruitment of first patient was 37.9 days (range 3-92). One region declined to open the trial >8/12 before expected trial closure due to concern about recruitment failure.

Conclusion: Trial specific issues have been minor in causing delays. Issues have been overcome by clear communication between surgeons at sites, the chief investigator and trial staff. Major delaying issues are site ethics/R+D approvals, staffing, funding and patient recruitment. Whilst research must adhere to international GCP standards, further streamlining of the research process is necessary to facilitate involvement of already stretched clinicians and their teams.

Keywords // Trial Setup, LIHNSCS

PO46 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Comparison of Harmonic Scalpel and Standard Surgery in Selective Neck Dissection for N0 Neck in Head & Neck Cancer Surgery
James A Cymerman, R Singh, T Boye, K Abdel-Gailil, D Sutton, R Kulkarni, James A McCaul (United Kingdom)
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Introduction: The harmonic scalpel is a relatively new device which is being adopted by Head & Neck surgeons for various procedures. It uses a rapidly oscillating blade to concurrently cut and coagulate the tissue. Early studies have suggested its effectiveness in reducing intra-operative blood loss (Walen et al 2012).

Methods:
We conducted a prospective randomised pilot study where 20 patients who were to undergo elective neck dissection for N0 disease were randomised into 2 groups. Each receiving either the standard surgery or the harmonic scalpel dissection. We measured the: operative time, intra-operative blood loss, and drain output for each cohort.

Results:
Early results suggest reduced operative time and reduced post-operative drain output for the harmonic scalpel cohort. Further details will be presented.

Conclusion:
The harmonic scalpel appears to result in changes in surgical outcome in this short series. A larger study to fully evaluate potential advantages of this device for this procedure is indicated.


Keywords: Harmonic, Neck Dissection

Low Molecular Weight Heparin (LMWH) Thromboprophylaxis in Free Tissue Transfer Patients for Head and Neck Cancer

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Introduction: In the UK 25,000/yr preventable deaths occur from hospital acquired venous thromboembolism (VTE). Currently no guidelines exist for major HNC surgery despite the high risk. Our local thromboprophylaxis guidelines changed, requiring an increased dose of LMWH. We report haemorrhagic complications in HNC surgical patients with varying LMWH dose and time of administration.

Methods: Documentation from patients undergoing major HNC surgery was scrutinized and patients classified by dose of LMWH prophylaxis received. Post-operative haemorrhagic complications and time of LMWH administration for each dose category were determined.

Results: 67 patients were analysed: 31.3% were administered low dose LMWH (20mg) prophylaxis and 68.7% high dose (40mg). There was a 5%-17% haemorrhagic complication rate. Ablative and reconstructive surgery was similar in each group. No patients taking antiplatelet therapy prior to surgery suffered haemorrhagic complications. Patients suffering bleeding complications received prophylaxis the evening before or evening of surgery. No patients receiving prophylaxis on induction suffered haemorrhagic complications.

Conclusions: Our study shows increased post-operative bleeding in patients receiving 40mg vs 20mg enoxaparin. No patients developed DVT and no intra-operative haemostatic difficulty was recorded. No bleeding complications were recorded where LMWH was given on induction.

Keywords: LMWH, Thromboprophylaxis, Free Tissue Transfer

Elective treatment of the neck for second primary tumors of the head and neck

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Background. To define the role of the elective neck dissection in patients with a second head and neck squamous cell carcinoma (HNSCC).

Methods. Retrospective study in 74 patients with a second N0 HNSCC treated with an elective neck dissection. Results. Thirteen patients (17.6%) had occult neck node metastases in the neck. The risk of occult neck nodes was low for patients with a second glottic tumor (0%), and for non-glottic T1-T2 tumors in patients that have received previous radiotherapy in the neck (5.3%). Patients with non-glottic locally advanced tumors (T3-T4) and T1-T2 tumors that have not received previous radiotherapy in the neck had a risk of occult neck nodes of 28.1% and 33.3%, respectively. Conclusion. Elective neck dissection could be omitted in patients with glottic tumors and patients with an early tumor (T1-T2) that have received previous radiotherapy in the neck during the treatment of the first HNSCC.

Keywords: Second tumors, elective neck dissection, occult neck node metastases

Head and Neck Cancer (HNC) Recurrence – One Unit’s Evidence Base for Follow-up

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Bradford Institute for Health Research

Introduction:
Current guidance suggests a minimum 5 years of follow-up for HNC patients, the frequency of which varies. There is no controlled, prospective data for this practice and it is unclear whether it confers a survival benefit. High frequency follow up is challenging due to staffing implications in our institution. Patient directed follow up of reduced frequency has been suggested. We start this process by evaluating recurrence data from one teaching hospital department of Maxillofacial/ Head and Neck Surgery.

Methods:
Analysis of departmental data for HNC patients was performed. We determined the time from the date of curative treatment to first clinical presentation of recurrence or second primary (RSP). We noted whether patient or a clinician first detected RSP. We also established whether the RSP was successfully treated.

Results:
Of 461 index cases of SCCHN recorded in our database, there were 44 RSPs. 43% were within 1 year and 25% in year two, with fewer in subsequent years (see figure). Preliminary data suggests that RSPs within two years were identified more often by patients than at surveillance appointments. There was no correlation between timing of recurrence and whether curative treatment was possible.

Conclusions
Our results support the consensus that the most intense surveillance period for SCCHN should occur within two years of treatment. Reduced intensity follow-up must be assessed in future trials with caution.

Keywords: Cancer, Recurrence, Follow-up

Simulations of the ossicular injuries in the sheep model: radiological and surgical correlations

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Objective: To assess the surgical and radiological correlations of the ossicular injuries in a sheep temporal bone model. Materials and methods: Four fresh sheep temporal bones have been dissected. Postauricular approach has been used. The most common traumatic ossicular chain dislocations were systematically simulated. Each dislocation was performed in the six directions: medial, lateral, anterior, posterior, superior and inferior. Bony impressions of the facial nerve canal of the different size were simulated surgically and evaluated by multiplanar reconstructions as well. Discrepancies in the dislocations lengths in the dissected specimens and reformatted computed tomographic images have been calculated.

Results: Optimal imaging planes for the sheep middle ear structures were delineated. Simulated ossicular dislocations correlated well with the corresponded radiological images.

Conclusions: The sheep temporal bone is a suitable model for studying ossicular chain dislocations. High-resolution computed tomography with different postprocessing techniques provides accurate diagnosis of the traumatic ossicular injuries.

Keywords: traumatic ossicular injuries, animal model
POS1 // OTOLOGY // Cochlear and middle ear implants
Outcome of cochlear implantation in children with cochlear malformations
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Objective: Evaluation of outcome of cochlear implantation (CI) in children with cochlear malformations.

Study Design: Retrospective case study. Setting: Tertiary referral centre.

Patients: Children with inner ear malformation judged by high resolution computed tomography (HRCT) and magnetic resonance imaging (MRI) treated with uni- or bilateral CI and a follow-up period of at least three years. The patients were operated by one of two surgeons using similar techniques in all cases.

Intervention: Therapeutic and rehabilitative.

Main Outcome Measures: Category of Auditory Performance (CAP), Speech Intelligibility Rating (SIR) and Meaningful Auditory Integration Scale (MAIS).

Results: Eighteen children were diagnosed with cochlear malformations (12 % of children receiving CI). In general, their long-term CAP, SIR and MAIS scores were similar to cochlear implanted children without malformations except one child with a common cavity, who performed below average.

Conclusions: Children with cochlear malformations perform equally to children without malformation in the long term. Standard electrodes can be used despite cochlear malformations. The most important factors determining the outcome is the age of the child at the time of implantation and duration of hearing loss before CI. Awareness towards an increased risk of complications in case of inner ear malformations is recommended.

Keywords // Inner Ear malformations, cochlear implants, CAP, SIR

POS2 // OTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Comprehensive dynamic airway assessment (CDAAn): an audit of a novel technique to improve rates of tracheostomy decannulation
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Introduction
Otolaryngologists are called upon to diagnose and manage patients who fail to achieve decannulation through conventional protocols. Flexible nasendoscopy (FNE) is advocated but examines only the supraglottic airway. The CDAAn extrapolates the principles of awake fibre-optic intubation, allowing a complete upper airway assessment, including the subglottis with decannulation under direct vision if appropriate.

Methods
A two-cycle audit was performed on post ITU tracheostomised patients that failed to decannulate with standard protocol management. A retrospective 25 month audit was performed to assess standard management of ENT review and FNE. A prospective 8 month audit was undertaken after the inception of CDAAn.

Results
Prior to CDAAn, 137 patients were discharged from ITU with a tracheostomy: 16 failed to decannulate through protocol management alone and 5 (31%) were eventually decannulated using a standard approach. After inception of CDAAn, 76 were discharged from ITU: 8 of 11 who failed protocol management underwent CDAAn, of whom 6 (75%) were decannulated immediately; a diagnosis for decannulation failure was made in the remaining 2.

Conclusions
CDAAn is an essential diagnostic tool in optimising the outcomes for complex patients with tracheostomies. It requires minimal resource, is versatile and is a natural extension of the expert nasendoscopic skills of the otolaryngologist. CDAAn should form an integral part of all decannulation protocols.

Keywords // Tracheostomy, fibre-optic nasendoscopy, airway management, decannulation

POS4 // OTOLOGY // Otology and facial nerve
Functional Results after cholesteatoma surgery with the retrograde mastoidectomy technique
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HNO-Klinik Ruhr-UniversitÄt Bochum

The retrograde mastoidectomy technique is an established method in cholesteatoma resection

Material: In a retrospective study we analyzed the functional results of patients, who underwent cholesteatoma surgery with the retrograde mastoidectomy technique between 2006 and 2010. 242 were followed up postoperatively.

Results: On average we could follow up the patients for 20.3 month. 142 underwent primary surgery, in 100 cases revision surgery was performed. In 151 the posterior canal wall was reconstructed and in 91 Patients an open cavity was created. Recurrent cholesteatomas were seen 12.7%. In 27.7% of the patients we saw a pure-tone air-bone gap of less than 10dB, in 33.9% of less than 20dB.

Conclusion: The retrograde mastoidectomy technique is a safe method used for removal of cholesteatoma. Satisfying long term results can be achieved with this technique.

Keywords // Cholesteatoma surgery, Retrograde mastoidectomy

POS5 // OTOLOGY // Cochlear and middle ear implants
Case Report (One Special Cochlear Implantation for Adult)
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A male patient aged 38 presented vertigo, nausea, balance problems, non-projectile vomiting and prolonged tinnitus in the left ear without obvious incentive in June,2005. He was given a possible diagnosis of Behcet's disease in our hospital based on these abnormalities together with repeated oral ulcer, acne-like rash and fundus occlusive vascular inflammation and received the impactive treatment of glucocortieoid which improved his sight and hearing for a time. However his hearing lost was progressively, and finally the patient lost his hearing completely. As a consequence, his hearing loss severely affected his quality of life, social activities and even his self-confidence. In order to improve his hearing, artificial cochlea implantation on his right ear on August 17th,2008. The first fitting of the device took place 1 month after the operation and proved to be satisfying. Further fitting sessions provided even more satisfactory device adjustment, and 6 months after the operation, the patient was able to quit lip reading and rely on his cochlear implant for everyday communication. To get further effects, the patient received artificial cochlea implantation on his left ear on January 23rd,2010, which bring advantages in speech perception, horizontal localization, and functional performance in real life. Both the patient and his family were delighted with the outcome.

Keywords // cochlear implantation, adult, surgery

POS6 // OTOLOGY // Otology and facial nerve
Effect of Acrolein on human middle ear epithelial cells
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Objective: Acrolein is a respiratory irritant present in the environment and tobacco smoke. Several publications have shown an association between environmental air pollutants and otitis media. In addition, Acrolein has been shown to cause inflammation and cytotoxic in the airways.We investigate whether Acrolein cause cytotoxicity and induce inflammation or increase the expression of mucin in immortalized human middle ear epithelial cell lines (HMEECs).

Methods: Cell viability following Acrolein treatment was investigated in HMEECs using the MTT assay. We measured the expression of the inflammatory cytokines TNF-Î¿ and COX-2 and the mucin genes MUC5AC using semiquantitative real-time reverse transcriptase-polymerase chain reaction (RT-PCR) and Western blotting.

Results: Exposure to more than 50 Âµg/mL of Acrolein caused a decrease in cell viability. 20-30 Âµg/mL Acrolein exposure increased the expression of TNF-Î¿ and COX-2. Acrolein exposure also increase the expression of MUC5AC.

Keywords // Otoology, middle ear epithelium, Acrolein, MUC5AC, Cell viability
Conclusion: Acrolein decreased cell viability, induced an inflammatory response, and increased mucin gene expression in HMECCs. These findings support the hypothesis that environmental air pollutant is a risk factor for otitis media. This subject is supported by Korea Ministry of Environment as "The Environmental Health Action Program"

Keywords // Acrolein, human middle ear epithelial cells, otitis media.

POS7 // OTOTOLOGY // Neuro-Otology and vestibular system
Does fitness habits reduce motion sickness?
Tero Toi, Yasuyuki Nomura, Takeshi Masuda, Shuntaro Shigihara, Maki Ikeda, Yoshitaka Kaneita (Japan)
Nihon University School of Medicine, Department of Otolaryngology-Head and Neck Surgery

We studied the data relating motion sickness when we had a chance to perform the dizziness questionnaire study for adults and students.

< Methods >
We performed the research of questionnaire for adults and students (10-18 y.o.). Originally that investigation was performed for the dizziness after the huge earthquake in Japan in 2011. In this present study we selected the items about motion sickness and analyzed the data.

< Results and Discussions >
The number of 1186/1926 adults and 1862/1928 students answered (collecting questionnaire). We studied the data relating motion sickness when we had a chance to perform the dizziness questionnaire study for adults and students.

Keywords // dizziness, motion sickness

PO58 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Nutritional support in head & neck oncology
Raluca Grigore, Serban Vijfor Gabriel Bertesteauan, Bogdan Popescu, Ioana Briccaeg, Cristian Radu Popescu (Romania)
Coltea Clinical Hospital

Background: ENT cancers by themselves represent a factor of weight loss and malnutrition. The surgical patient in ENT cancer are in 70% of the cases malnourished before the surgery, and because of the surgical procedure they can not be orally feeded for more than 7 days. These are indications of nutritional support.

Material and method: The authors present a method of screening of the nutritional status and a method for establishing the indication for nutritional support regarding the patients in our clinic. The means for administrating the nutritional support are influenced by the period of time that we need to administer it, by the pathology and by the malnutrition status in correlation with the clinical status of the patients. In 2006-2012 ENT Coltea Clinic participated at “Nutrition Day” study.

Results: It is very interesting to see that the results are like the others participants. It is remarkable to see that the patients were willing to answer the questionnaire. Also, a good fact is the appreciation of the doctor regarding the importance of nutritional status at the admission, evolution during hospital stay, better knowledge comparing with 2006.

Conclusions: The impact of nutritional status over the evolution and recovery of the cancer patient is a fact that motivate the efforts of the ENT specialists in introducing the clinical nutrition principles in everyday practice.

Keywords // malnutrition, nutritional support, head&neck surgery

PO59 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Synthetic reconstruction of pharyngo-esophageal defect
Serban Vijfor Gabriel Bertesteauan, Raluca Grigore, Bogdan Popescu, Ioana Briccaeg, Cristian Radu Popescu (Romania)
Coltea Clinical Hospital

Background: Pharyngo-esophageal junction cancer is a rare and highly complex pathology which generally requires an interdisciplinary approach. After a portion of the esophagus is removed or complete esophagectomy, a conduit must be established. Not only the anatomy but the treatment and the prognosis of these tumours are intermediate between hypopharyngeal and oesophageal tumours.

Material-Method: The authors reviewed the experience of the authors in total pharyngolaryngectomy and his technique of faringoesophageal reconstruction with synthetic esophageal prosthesis. We have a 45 patients who suffer a esophageal reconstruction Montgomery esophageal tube.

Discussion: It is very important this new modern interdisciplinatory approach, between the head neck surgeon and the general/thoracic surgeon, to abort the pharyngo-laryngo- esophagectomy with one stage reconstruction. The follow up of the patients demonstrate that this reconstruction method is good choice with low cost and advantages for quality of life.

Conclusions: Surgery for these patients should be considered primarily palliative, and the optimal reconstruction should preserve the quality of life for the duration of survival.

Keywords // pharyngo-esophageal, cancer, synthetic prosthesis

PO60 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Virus-Recognizing TLR-Receptors in Juvenile Nasopharyngeal Angiofibroma
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Helsinki University, Department of Otorhinolaryngology

Background: juvenile nasopharyngeal angiofibroma (JNA) is a rare, benign tumour affecting adolescent males. The etiology of JNA is unknown, as are the factors determining the variable growth patterns of individual tumours. Our aim was to elucidate factors determining the variable outcomes of JNA. One putative option could be an impaired response to viral invasion and for this purpose we stained pattern recognition receptors responsible for the viral detection (toli-like receptors TLR-3, TLR-7 and TLR-9) in 27 JNA specimens. Toll-like receptors are part of the innate immune response to microbes and by recognition of distinct features link to the induction of the pro-inflammatory signalling pathway. In addition, TLRs are found in different tumour tissues but their role in tumour growth is still unclear. TLR-3, -7, and -9 were chosen, because they are known to be activated by nucleic acids released from viruses and they take part in virus-based immunity.

In JNA, TLR-3, -7, and -9 expression was found in mast cells as well as in stromal and endothelial cells and their expression levels varied from negative to very strong positive. TLR-3 and -9 positivity was mainly cytoplasmic while TLR-7 immunopossession was seen on cell membrane. We suggest that viruses may participate in the progression of JNA and further studies are warranted.

Keywords // Juvenile nasopharyngeal angiofibroma, neoplasms

PO61 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Tonsillar metastasis of lung non small cells carcinoma
V.Roustan, S.Garofolo, M.Barbiere (Italy)
ENT Dept. University of Genoa, Italy

A multidisciplinary approach is fundamental to frame an oncological patient and lead him the best therapeutical approach. The authors present the case of a 48-year old female evaluated for the first time in emergency for acute dyspnea.

The ENT objective examination revealed an ulcerated lesion of the left patiana tonsil, that was biopsied, and a bilateral vocal cords paralysis in paramedian position.

The total body CT-scan revealed an inhomogeneous hypodensity of the left tonsil and the presence of voluminous diffuse lymphadenopaties with a dislocation of the upper airways and the vascular structures in the mediastinum. The radiological frame suggested the specialists in hematology and thoracic surgery a case of non Hodgkin lymphoma, but the histological examination established it was tonsillar metastasis of lung non small cells carcinoma; further radiological examinations demonstrated the presence of other localization in brain, bones and liver.

The oncological consult decided for a palliative chemotherapy. We provided a dietetic and psychiatric support.
The aim of this case report is to show you a very rare tonsillar metastasis: there is just one other case in literature.

Keywords // tonsillar metastasis, lung carcinoma

PO62 // OTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Reducing wound complications in salvage total laryngectomy: a case series and meta-analysis

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Introduction: Pharyngo-cutaneous fistula (PCF) is a serious complication following total laryngectomy (TL). This study examines the effect of prophylactic tissue flaps on PCF incidence.

Methods: Retrospective review of all patients undergoing TL at our institution 2000-2011. The primary outcome was development of PCF. Meta-analysis of PCF incidence was performed on data from 3453 patients, stratified by initial treatment modality and use of prophylactic flaps.

Results: One-hundred sixty-four patients were included; 98 had TL alone, 32 TL and partial pharyngectomy, 11 TL and total pharyngectomy, and 23 pharyngo-laryngo-oesophagectomy. Eighty-eight patients were previously untreated, 83 were previously treated with radiotherapy +/- chemotherapy. Overall PCF incidence was: TL, 27/98 (27.6%) [7/46 (15.2%) primary TL, vs. 20/52 (38.5%) salvage TL]; >TL, 23/66 (34.9%) [14/39 (35.9%) primary >TL, vs. 9/27 (33.3%) salvage >TL]. PCF incidence is significantly increased in salvage TL compared to primary TL (p=0.01). There is no significant difference in PCF incidence between primary >TL and salvage >TL (p=0.83).

Meta-analysis shows a PCF incidence of 16% (95% CI, 13-19%) for primary TL, 30% (95% CI, 25-35%) for salvage TL with primary closure, and 10% (95% CI, 5-15%) for salvage TL with primary closure and a flap.

Conclusion: Meta-analysis supports the use of prophylactic tissue flaps in patients undergoing salvage laryngectomy.

Keywords // Laryngectomy, Pharyngo-cutaneous fistula, radiotherapy, chemotherapy, vascularised tissue flap

PO63 // OTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Parapharyngeal space tumors: video-assisted minimally invasive transcervical approach

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Purpose/Background/Objective: To evaluate advantages of a video-assisted, minimally invasive transcervical approach to malignancies of parapharyngeal space (PPS) tumors

Methods: Five patients affected by benign and malignant parapharyngeal neoplasms underwent a combined transcervical and video-assisted minimally invasive approach, using O&A and 30A Hopkins’ telescopes. We describe operative technique and literature review.

Results: The final histologies were one cavernous hemangioma, two pleomorphic adenomas and two papillary thyroid carcinoma metastasis. The median length of the surgical wound was 72 mm (range 35-140 mm). Tumor size was 35 mm (19 mm to 46 mm). Operation time ranged from 75 min to 170 min (mean 137 min), and no complications occurred. The patients were discharged on postoperative day 3-5, without any sequelae.

Conclusion: The mini-invasive video-assisted transcervical approach is safe and feasible for selected benign and malignant PPS tumors. Furthermore, it offers accurate hemostasis and continuous control of critical anatomic structures.

Keywords // parapharyngeal space, video-assisted, endoscopic, pleomorphic adenoma, papillary thyroid carcinoma metastasis

PO64 // OTOLOGY // Audiology

Association between Sudden deafness and Otospongiosis

fernando laffitte fernandes, Alexandre Caixeta Guimardes, Guilherme Machado de Carvalho, Ivan Sens Cardoso Macedo, Alexandre Scalli Mathias Duarte, Arthur Menino Castilho, Jorge Rizzato Paschoal, Agricio Nubia Crespo (Brazil)

Abstract: Several etiologies have been described for sudden hearing loss. However the cause is not found in most cases, even after proper investigation. It is not known whether there is etiological relationship between otospongiosis and sudden deafness. We have got only two papers regarding this relationship at the English medical literature. We report two cases of late sudden deafness in the unoperated ear of patients with otospongiosis. Both patients underwent previous surgical treatment in the contralateral ear with a bad outcome regarding hearing some days after a short period of hearing improvement.

Keywords // otospongiosis, Stapedectomy, stapes surgery, sudden hearing loss

PO65 // OTOLOGY // Cochlear and middle ear implants

Electro acoustic stimulation of the auditory system: Hearing preservation and surgical approaches

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UNICAMP

Abstract: A new era has arrived in auditory rehabilitation with the introduction of new technologies such as electroacoustic stimulation (EAS). EAS is indicated for patients with residual hearing at low frequencies and profound hearing loss at high frequencies. These patients have no indication for conventional cochlear implant and have difficulties in adapting to individual sound amplification devices. Preservation of hearing is vital in this process; the surgical technique must be based on this concept.

OBJECTIVES: To present the cochlear implant surgical technique with MED-EL and FlexEAS to preserve hearing in patients with hearing loss at high frequencies and to maintain low frequency hearing and realize a review of the literature of the techniques and its results.

METHODS: A report of the surgical technique carried out in nine patients; the procedure was carried out by the cochlear implant group of a specialized clinical hospital.

RESULTS: The procedures were successful and uneventful.

CONCLUSION: We described the technique used at our institution for implants using EAS; the surgical technique is complex and includes steps for preservation of hearing.

Keywords // acoustic stimulation, cochlear implants, hearing disorders, hearing loss, rehabilitation of hearing impaired

PO66 // OTOLOGY // Cochlear and middle ear implants

Digisonic® SP Cochlear Implant fixation system with titanium screws and patient outcomes.

Arthur Menino Castilho, Ivan Sens Cardoso Macedo, Guilherme Machado de Carvalho, Alexandre Caixeta Guimardes, Alexandre Scalli Mathias Duarte, Fabiana Danieli, LÁcia Cristina Beltrame Onuki, Jorge Rizzato Paschoal, Walter Adriano Bianchini, Agricio Nubia Crespo, Arthur Menin (Brazil)
UNICAMP

Cochlear implants have revolutionized the way patients affected by severe hearing loss experience the world. Neurelec developed a fixation system with two titanium screws that requires no skull bone drilling.

Objective: To describe the outcomes and procedure-related details of a series of patients implanted with the Digisonic® SP cochlear implant.

Method: This retrospective study analyzed patients submitted to cochlear implant placement within a period of 18 months. All patients had postlingual hearing impairment. Data was collected from patient charts and standard questionnaires answered by the surgeons in charge of carrying out the procedures.

Results: The six patients offered the Digisonic® SP cochlear implants were operated by experienced surgeons. The procedures took 95 to 203 minutes (mean ± 35”) to be completed, which is less time than what has been described for other fixation approaches. No complications were recorded and hearing improvement was satisfactory.

Conclusion: The Digisonic® SP cochlear implant developed by Neurelec offered good audiological results for adult patients, shorter surgery time, and no surgical or postoperative complications.
PO67 // OTOMY // Audiology
Diagnostic approach and clinical evaluation of the auditory neuropathy
Arthur Menino Castillo, Alexandre Scalli Mathias Duarte, Guilherme Machado de Carvalho, Ivan Senis Cardoso Macedo, Alexandre Caixeta Guimarães, Lucas Ricci Bento, Marcelo Naoki Suki, Luciane Calonga, LÂ£cia Cristina Beltrame Onuki, Daniela Coli, Priscila Zonzini, Edi LÂ£cia Sarto (Brazil) UNICAMP

The auditory neuropathy or auditory dys synchrony is a condition where there is involvement of the auditory nerve fibers in the conduction of sound. OBJECTIVE: To assess the frequency of auditory neuropathy in patients diagnosed with bilateral hearing loss at a university hospital. MATERIALS AND METHODS: A retrospective observational study, through the analysis of medical records. The variables analyzed were age, sex, onset of hearing loss, gestational, perinatal and genetic factors, and results of electrophysiological tests: ABR, otoacoustic emissions. The diagnosis was defined in the following situations: presence of otoacoustic emissions (transient or distortion) with ABR absent or absence of otoacoustic emissions and ABR with identification of the cochlear microphonism. RESULTS: Included in the study 37 patients with bilateral hearing loss, 28 males and 09 females. The beginning of hearing loss was congenital in 30 patients (81.08%). The research of transient otoacoustic emissions were absent in 24 patients (64.86%). The brainstem evoked potentials were present only in 3 patients, being bilateral in 1 (2.70%). The research of the cochlear microphonism was present in 24 patients (64.86%). In relation to pregnancies, perinatal or genetic factors, they were present in 16 patients (43.24%). CONCLUSION: Auditory dys synchrony is an important cause of hearing loss and the diagnosis should be considered especially in the losses that have started until adolescence.

Keywords // hearing loss sensorineural, auditory neuropathy, auditory dys synchrony

PO68 // OTOMY // Cochlear and middle ear implants
EMPLOYMENT OF COCHLEAR IMPLANT IN SKULL BASE SURGERY: OUR EXPERIENCE.
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EMPLOYMENT OF COCHLEAR IMPLANT IN SKULL BASE SURGERY: OUR EXPERIENCE.
A.Bertuccio1, M. Perotti2, A.Barbanera1, P.Versari1
1Neurosurgery, 2Otoneurosurgery, Ospedale Civile Alessandria, Alessandria, Italy

Introduction: The cochlear implant is the first-choice solution for severe and profound hearing loss. Skull base surgery procedures often require sacrificing the hearing function. An interesting and innovative application field for cochlear implants is to restore hearing function after this skull base surgery procedure.

Patients and methods: In our department from March 2009 to January 2012 15 patients (5 acoustic shwannoma, 3 Mâ£ia’s disease, 2 petrous-apex giant cholesteatoma, 1 facial shwannoma, 2 cholesterin granuloma, 1 CPA vascular conflict., 1 glomus jugular tumor) affected by different pathology involving skull base was surgically treated plus cochlear implant insertion.

Results: 13 Patient have hearing benefits from cochlear implant, even those cases with contolateral normal hearing or mild hearing loss. 1 giant petrous apex cholesteatoma with partial erosion of cochlea apex and 1 patient with acoustic shwannoma had no hearing benefits.

Conclusion: those skull-base procedures where the sacrifice of the auditory function is required represent, in our experience, an interesting application field for cochlear implants.

Keywords // cochlear implant, acoustic schwannoma, menier’s disease, hearing

PO69 // OTOMY // Neuro-Otology and vestibular system

Ocular vestibular evoked myogenic potentials induced by bone-conducted vibration in patients with unilateral inner ear disease.
Noriko Kobayashi, Yassuo Ogawa, Akira Hagiwara, Koji Otsuka, Taro Inagaki, Shigeru Shimizu, Mamoru Suzuki (Japan) Department of Otorhinolaryngology, Kohsei Central General Hospital

Introduction:
The ocular vestibular evoked myogenic potential (oVEMP) is a recently described clinical measure of the vestibulo-ocular reflex. In this study we attempted to correlate the results of oVEMP with those of cVEMP, subjective visual vertical (SVV), and the clinical course in patients with unilateral inner ear disease.

Materials and methods:
Twenty two patients with vestibular neuritis (VN), 65 with udden sensorineural hearing loss (ISSHL), 9 with Ramsey-Hunt syndrome, and 22 with Meniere’s disease were enrolled in this study. The oVEMP were induced by bone conducted vibration. We compared the results of oVEMP in those patients with the those of cVEMP, SVV, caloric test results, initial hearing threshold, vertigo and hearing recovery.

Results: The VN patients with complete CP showed a higher rate of abnormal oVEMP than those with partial CP. There were no significant differences between cVEMP and oVEMP in the patients with unilateral inner ear disease. In the patients with ISSHL, the hearing recovery rate was lower in the patients with abnormal oVEMP.

Conclusion: The VN patients with complete CP showed a higher rate of abnormal oVEMP than those with partial CP. From these results, it is speculated that the superior nerve function mainly affects oVEMP. Significant correlation was found among the grades of the hearing outcome and oVEMP in the ISSHL. This result suggests that oVEMP would be usefulness for prediction of prognosis of SSHL.

Keywords // oVEMP, unilateral inner ear disease

PO70 // OTOMY // Audiology
Clinical study of patients with myringosclerosis
Eriko Nishihara, Nobuhiro Hakuba, Kiyohumi Gyo (Japan) Department of Otolaryngology, Eihime University School of Medicine

We examined 14 affected ears of 12 patients with myringosclerosis who underwent operations in our department from August 2009 to December 2011. They had a postoperative follow-up of more than 1 year. The average patient age was 40.3 years. The patient group comprised seven affected ears among six males and seven ears among six females. All ears had been diagnosed with otitis media during childhood, and involved tympanic membrane perforations. The average preoperative pure-tone audiometry was 43.4 dB. Type I tympanoplasty was performed in 13 ears, and type III was performed in one ear. Myringoplasty with auricular cartilage was performed in eight ears. Most ears had sclerosis of the annulus tympanicus. After the postoperative follow-up, no re-perforation of the tympanic membrane occurred in any of the ears, and an air-bone gap closure of less than 15 dB was achieved in 13 ears (92.9%). In myringosclerosis, the annulus tympanicus and edge of the tympanic membrane perforation were often involved in sclerosis or calcification. In those cases, tympanoplasty, not myringoplasty, is required to improve hearing ability or close the tympanic membrane perforation.

Keywords // myringosclerosis, calcification, tympanoplasty

PO71 // OTOMY // Oncology, head and neck, oral cavity, pharynx and trachea
ORAL SQUAMOUS CELL CARCINOMA: NEED FOR LEVEL V NECK DISSECTION IN T3 - T4 LESION WITH N0 - N1 NECK
Muhammad Saleem Marfani, Atif Hafeez; Zebra Ahmed; Ashok Rahija (Pakistan) Dow University of Health Sciences

OBJECTIVE: To gain insight for the need of level V neck dissection with N0 - N1 neck in T3 - T4 oral squamous cell carcinoma.

DESIGN: Non-interventional; Descriptive.

Keywords //
CONCLUSION: Our study suggests that level V neck dissection is not needed in 33 and well differentiated in 16 patients. Histopathology revealed moderately differentiated SCC in 9 cases. However none were positive at level V. Primary lesion was involving cheek in 40 patients.

INTRODUCTION: Measures of TEAEO in children with middle ear disease are severely limited with respect to investigating the inner ear function. The aim of this study was to examine the factors of interest for obtaining TEAEO measurements in patients with middle ear impedance changes. MATERIAL AND METHODS: A total of 50 children with secretory otitis media, 2-15 year of age, were treated medically and surgically, from June 2009 to August 2010. Subjects with SOM were seen at entry, prior to commencement of therapy, and every 4 weeks following entry for the period of one year. Every exam consisted of an otomicroscopy, tympanometry, TEAEOs and audiometry. RESULTS: The most important factors associated with positive TEAEO at the start of the trial were normal rhinococscopic and otomicroscopic findings with a respective OR of 5.37 (CI 95%, 1.22-23.65); p

PO74 // OTOLARYNGOLOGY // Audiology Positive and negative predictive factors for transiently evoked otoacoustic emissions measurement in children with changes of middle ear impedance Bojanovic Mila, BojanovicM, Zivkovic-Marinkov E, Stankovic M, Zivc M, Milisavljevic D, Ristic S, Stojanov D, Ignjatovic J (Serbia) ENT Clinic CCBis, Medical Faculty of Nis, Serbia

INTRODUCTION: The rationale for frequency and duration of Post treatment head and neck cancer surveillance (PTHNCs) is controversial although generally accepted. It is an area ripe for revision through fusion of enhanced recovery principles and the recommendations of the UK Head and Neck Cancer multi-disciplinary guidelines 2011 (HNCMDG). Method: Retrospective review: The recommendations of the HNCMDG 2011 were used to generate a 15 visit, 5 year PTHNCs protocol. A traffic light analogy explains it’s rationale and reinforces the positive implications associated with progression to patients. A patient appointment/information card developed outlining surveillance schedule and red flag symptoms that require early review. The follow up of patients completing chemoradion for HNC in the first half of 2011 was compared. Results: 47 patients treated: 21 patients on PTHNCs protocol, 20 (95%) attended the minimum number of visits, 4 requested additional reviews (one for a synchronous primary), 0 lost to follow up, 1 died: 26 patients followed at clinicians discretion, 11(42%) attended the minimum number of appointments, 2 did not, 1 never saw the surgical team, 1 lost to follow up, 11 died. Conclusion: Empowering patients to participate in their follow up while educating them as to symptoms that require earlier review allows an increase in interval follow up of asymptomatic patients. Symptomatic patients initiate an earlier review. Fewer patients are lost to follow up.

Keywords // osteosynthesis, mandibulotomy, neoplastic cachexia


Introduction: The main symptoms that bring the patients to the E.N.T. department are dysphagia and odynophagia. Other symptoms at presentation are otalgia, head ache, weight loss - neoplastic cachexia, fatigue, tumor masses in the neck region, halitosis, bleeding though the mouth. Because tumors in late stages T3-T4 have a poor prognosis the oncological resection margins need to be correctly assessed. Thus the need for a better approach in resecting pharynx malignant tumors. The transmandibular approach gives us the optimum operating view on the tumor and allows us to correctly assess the extent of the malignant process. Conclusions: Squamous cell carcinoma of the pharynx is the main pathological entity that affects the organ. Because of the low socio-economic standard of the patients the y refer to the E.N.T. specialist in late stages of the malignancy. The optimum therapy solution for such tumors is the transmandibular approach via median or lateral mandibulotomy with consecutive osteosynthesis with plates and screws.

Keywords // Squamous Cell carcinoma, Head and Neck, Surveillance, Enhanced recovery

PO77 // OTOLARYNGOLOGY // Otology and facial nerve Tympanoplasty with autologous bone chips and cartilage attic strut in cholesteatoma surgery

Keywords // Otoendoscopy, especially with 30-degree endoscope, is mostly precise in patients with cholesteatoma and ossical erosion.
Cochleovestibular dysfunction is a well described complication of congenital and acquired syphilis. In the latter, hearing loss can occur at any stage of the infection (secondary and late stages) and it is often of sudden onset, bilateral and rapidly progressive, often with only minor vestibular symptoms. There is no established case definition for oto syphilis, but the diagnosis should be obtained by a combination of clinical findings, positive serum serology and exclusion of other causes of deafness.

Hearing impairment is reversible in the secondary stage of the disease, and prompt diagnosis and treatment are important for maximum hearing recovery. In this work we present a case of sudden sensorineural hearing loss occurring as a complication of secondary syphilis. Our main objectives are to exemplify how rarely syphilis is considered as a possible diagnose in this kind of clinical presentations; create awareness regarding the importance of an early diagnose in a patholgy ENT clinicians are not used to deal with in day to day practice; emphasize the importance of cooperation between different specialties in managing patients with syphilis.

Keywords: syphilis, oto syphilis, sudden hearing loss

PO80 // OTOTOLOGY // Audiology

Examination of acoustic neuromas with subjective and objective audiometry and computer aided 3D reconstruction

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University of Szeged, Department of Oto-Rhino-Laryngology and Head-Neck Surgery

Acoustic neuromas (vestibular Schwannomas) account for about 10% of the intracranial tumors. These are noninvasive, unilateral benignomas that are situated in the internal auditory canal and later, as they grow, in the cerebellopontine angle. They originate from the Schwann cells and due to their space-occupying nature they cause cochlear and vestibular symptoms. Our aim was to follow a group of selected patients who have acoustic neuromas with pure tone audiometry (PTA), stapedius reflex test (SRT), distortion product otoacoustic emissions (DPOAE) and auditory evoked brainstem responses (EABR).

We followed the localization and the volume of their neuromas with computer aided CT/MR 3D reconstruction using image registration and image segmentation algorithms. Here we present our findings that describe the relationship between the audiometry results and the follow up of the localization and volume change of the patients’ acoustic neuromas.

Keywords: // image processing, acoustic neuroma, audiology

PO81 // OTOTOLOGY // Cochlear and middle ear implants

Cost Analysis of the Vibrant Soundbridge System

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University Hospital MA_nster

The Vibrant Soundbridge System (VSBS) received CE approval in Europe in 1998 and FDA approval in 2000 in the USA. The system has been successfully implanted on thousands of patients since then. The indication criteria has expanded over the years from an initial moderate to moderately severe sensorineural hearing loss to now include conductive and severe mixed hearing losses. The system is now an established therapy for patients with combined hearing losses due to the development of the round window coupling as well as other vibroplasty coupling modifications. Although the audiologic results as well as quality of life benefits of the VSBS are better when compared to air conduction and bone anchored hearing systems, the reimbursement of costs from health care providers is often tedious due to the higher cost of the Vibrant Soundbridge system.

This study provides a cost effectiveness analysis of the treatment with a VSBS in Germany based on an analytic model with the calculation of a standard unit for the cost utility. The cost per QALY was determined based on bone and air conduction hearing aids. The calculation includes the cost of initial audiologic examination and bone anchored hearing systems, the reimbursement of costs from health care providers is often tedious due to the higher cost of the Vibrant Soundbridge system.

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PO82 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Expression of total vascular endothelial growth factor (VEGF) and inhibitory isoforms of VEGF in head and neck squamous cell carcinoma

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Department of Otorhinolaryngology “” Head and Neck Surgery, University Hospital Antwerp

Introduction: Vascular endothelial growth factor (VEGF) is a potent stimulator of angiogenesis ** a prerequisite for tumour progression, survival and metastasis. Alternative splicing, however, results in a family of anti-angiogenic sister isoforms of VEGF (VEGFFxxbb), not yet investigated in head and neck squamous cell carcinoma (HNSCC). We evaluated, therefore, VEGF isoform expression in HNSCC with respect to clinicalpathological outcomes.

Methods: Using a tissue microarray 187 HNSCCs (87 larynx, 73 oropharynx, 27 hypopharynx) were studied. Tumour sections were assessed by immunohistochemistry with total VEGF (panVEGF) and VEGFxxbb-specific antibodies, and were scored by 2 assessors for staining intensity and proportion. Scores were compared against clinicopathological parameters using multivariate statistical analysis.

Results: No meaningful significant differences were observed in panVEGF, VEGFxxbb, or expression ratio (VEGFFxxbb/panVEGF) with respect to T stage, vascular invasion, presence or absence of nodal metastasis, N stage, extra-capsular spread (ECS), or overall survival. This remained the case when tumour subsites were analysed independently and also when HPV positive tumours were excluded.

Conclusions: Neither total VEGF nor anti-angiogenic isoform expression predicts loco-regional disease burden or overall survival in HNSCC. Relative VEGF isoform expression appears, therefore, to be an unhelpful prognostic biomarker or potential therapeutic target in HNSCC.

Keywords // head and Neck Neoplasm/pathology; Carcinoma, Squamous Cell/pathology; Vascular Endothelial Growth Factor A;expression; Vascular Endothelial Growth Factor A/biochemistry; Vascular Endothelial Growth Factor A/gene expression; Lymphatic Metastasis/diagnosis; Prognosis

PO83 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

The implementation of the Portsmouth Tonsillitis Protocol

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Queen Alexandra Hospital, Portsmouth, UK

Objective: To design a safe protocol, the first within the literature, using the best available evidence for the management of acute pharyngotonsillitis referred to the secondary setting.

Method: A retrospective review of 86 patients presenting with acute pharyngotonsillitis over a 6 month period was performed. Pertinent details documented included patient admission or discharge, duration of inpatient stay if required, investigation results and failed discharge rate. Following analysis of the first cycle data, a unique treatment algorithm was produced with the input of the senior consultants and evidence within the literature. Following implementation of the protocol, prospective analyses of 40 patients were included in the second cycle over a 4 month period and patient outcomes compared.

Results: A total of 126 patients (56 males, 70 females), mean age of 27 years, were included in the study. Implementing the protocol reduced admission rates from 94.2% to 40% (p

Keywords // pharyngotonsillitis, infectious mononucleosis, protocol, cost-effective

PO84 // OTOTOLOGY // Cochlear and middle ear implants

Non-auditory effects during speech processor programming

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During the fitting process it is the most important to determine the exact electrical threshold and comfort levels, which assumes a series of psychophysical measurements to be taken. The intensity at which just a hearing sensation is evoked (threshold level) and the intensity that causes a bearable loudness (the comfort level) must carefully be determined on each electrode. The speech processor will then transform the external sound stimuli – with the use of the appropriate speech coding strategy - to this dynamical range. In several special cases the determination of the electrical comfort levels is impossible. Frequently the maximum level of the electric stimulation is not sufficient to cause a normal hearing level. In other cases the stimulation of facial nerve or other non-auditory effects impede obtaining the appropriate hearing sensation. Using behind the ear speech processor the optimal power consumption and avoiding out of compliance values are very important. But we can solve these problems with the optimisation of different stimulation parameters. The authors show these procedures in case of their patients. Having the above in mind we must say that the regular programming of the device is very important.

Keywords // cochlear implant, psychophysiology, fitting, electrophysiology

PO85 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

Cervical recurrent tumors - the expression of a rare disease: Job syndrome

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Coltea clinical Hospital

Introduction: Patients with cervical tumors are a frequent situation for ENT specialist. Recurrent tumors are not so often, but is the rule for Job Syndrome (also known as Hyper IgE syndrome), first described in 1966, a rare immunodeficiency disorder with sporadic cases, 1 per million people.

Material and Methods: authors presents 2 clinical cases, one of a 41-year-old female treated in surgical clinic with incision and drainage, for several tumors developing as abscesses of the skin and soft tissue, and the second patient, a 25 year-old male with multiple cervical tumor masses that were excised; the diagnosis was very difficult after several suspicions and many years.

Results: Both patients are under medical supervision, the first female patient was treated with more than 125 surgical interventions, and the male patient was treated by recurrent excision of multiple cervical tumors (over 50). The pathology exams of both patients revealed chronic inflammatory infiltrate.

Conclusions: Job Syndrome is a very difficult diagnosis, which has different surgical treatments for infectious complications which are life-threatening. The quality of life of the patients is of tremendous importance. Early incision and drainage, or the excision (very difficult surgery, because of nerve and vessels invasion) followed by the intravenous administration of antibiotics is the treatment of choice. No definitive therapy is available for the treatment of hyper-IgE syndrome.

Keywords // neck recurrent masses, IgE, Job syndrome

PO86 // OTOTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea

CONSIDERATIONS CONCERNING COMpressive cervical Syndrome in malignant disease of the lymphatic system

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Institute of Phonaudiology and Functional ENT Surgery "Prof. Dr. Dorin Hociota”.

The aim of this paper is to present two clinical cases and some particular aspects of the surgery. The first case describes the particularities of a multiple compression syndrome involving the respiratory, the digestiv tract and vasculo-nervous compression determined by important cervical lymphadenopathy. The second one is about a pharyngo-laryngeal obstruction syndrome and a compressive neck mass also, starting as a tonsillar malignant lymphoma. Methodology : case report with associated surgery and immediate postoperative results. Some anatomo-topographical features of the surgical areas addressed are reported.
Conclusions: Both the compression and/or the obstruction of the head and neck region about the malignant lymphomas as systemic diseases are discussed.

Keywords: Malignant lymphoma, cervical surgery, compression syndrome

PO87 // OTOLOGY // Otology and facial nerve
Changes of biochemical and inflammatory markers in sudden idiopathic hearing loss according to age, time duration and hearing loss level
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Guilhane Military Medical School

Background: Idiopathic sudden hearing loss is a sensorineural decrease of hearing which requires urgent treatment that varies up to patient’s age, other comorbid pathologies, time duration and doctor’s choice. Although some inflammatory and biochemical changes were shown as possible risk factors, sudden hearing loss can have many possible etiologies which are not known yet. Objective: We aimed to determine how biochemical and inflammatory markers change according to age, hearing loss levels and time interval between onset of symptoms and treatment. We also sought risk factors for development of sudden hearing loss.

Methods: A retrospective study of a 1.5 year-period was performed in our clinic with 52 patients. The criteria for inclusion were admission within 30-day of onset and not receiving any medication before for hearing loss. Patients with trauma, any kind of acute infection and other co-existent otological pathologies and patients who had received steroids in past 30 days were excluded from the study. Serum lipids, elements and electrolytes, homocysteine, acute phase reactants, folate, vitamin B12 levels were measured in 52 patients. Their relations between age, hearing loss levels and time interval between onset of symptoms and treatment were evaluated.

Results: Increased levels of LDL, total cholesterol, ASO, homocysteine and decreased levels of HDL, C3c, Fe were noted. Conclusion: Importance of the findings were reviewed.

Keywords: Sudden hearing loss, inflammatory, biochemical

PO88 // OTOLOGY // Cochlear and middle ear implants
New cochlear implant recipient clinical care model
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Due to the dramatic increase of the CI recipients number it is necessary to implement new clinical care models. The new selection of tools to complement current fitting methods and to enable a novel model of clinical care was developed by Cochlear Ltd. It includes a wireless handheld device for the intraoperative ECAP measurements and new fitting software™ NFS (Nucleus Fitting Software).

The aim of the study was to validate that the results achieved with the handheld device were equivalent to those obtained using the standard clinical equipment. The comparison study was conducted in 105 patients. ECAP threshold measurements were performed intra-operatively using both the wireless handheld device and the standard clinical system. Thresholds were measured for all electrodes along the electrode array and were obtained for all patients and for the majority of electrodes in the array. The time to complete measurement and integrity of t-NRT/ECAP were analyzed. The statistical analysis indicated that there were no significant differences between thresholds obtained using the handheld device and those obtained using the standard clinical equipment both for all electrodes and individual electrodes as well. It was also shown that measurement time with wireless device was significantly shorter.

Additionally 60 patients implanted with Nucleus Freedom CI were fitted using conventional Custom Sound Software and new NFS. The results and comparisons of both methods will be discussed.

Keywords: ECAP, NRT threshold, wireless measurement, CI fitting

PO89 // OTOLOGY // Cochlear and middle ear implants
Our experience in the approach to the cochlea during cochlear implantation
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The choice of the access to the cochlea during cochlear implantation is still remains actual. The precise and atraumatic insertion of the CI electrode array in scala tympani is the common task of all surgical approaches during cochlear implantation. The round window size, individual anatomical peculiarities of the scala tympani which could not be evaluated before the surgery and technical characteristics of the electrode array become important for the selection of the access to cochlea. Moreover the attempt to insert through the round window the obviously unsuitable electrode is more likely to require additional manipulations which increase the chance to damage the inner ear structures and nullifies the struggle for residual hearing. The special construction of the electrode array (Nucleus CI422 and Hybrid) guaranties its insertion in the scala tympani through the incision in the round window membrane. In all additional cases with the use of perimodiolar electrodes it is necessary to shape the cochleostomy of the sufficient size involving the round window also. So, the access to the scala tympani through the round window we do not consider as a method of the choice because it depends on the surgeon’s skills, electrode design and anatomical features of the cochlea. In all cases the decision on the approach should be considered individually.

Keywords: CI, round window, cochleostomy, electrode array

PO90 // OTOLOGY // Audiology
Comparison of intermittent intratympanic steroid injection and near-continual transtympanic steroid perfusion as salvage treatments for sudden sensorineural hearing loss
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This study was to investigate whether near-continual transtympanic steroid perfusion is more effective than intermittent intratympanic steroid injection as a salvage therapy for idiopathic sudden sensorineural hearing loss.

Methods: We designed a case-control study consisting of 60 patients with sudden sensorineural hearing loss who did not respond well to systemic steroid therapy. From November 2008 to October 2010, we prospectively enrolled subjects for the transtympanic steroid perfusion therapy (TTSP). We retrospectively collected data from age- and sex-matched patients who had undergone intratympanic steroid injection (ITSI) between January 2003 and October 2008. The audiological results of the two groups were compared.

Results: The pre-salvage pure-tone threshold was 65.4±13.5 dB in the TTSP group. After the therapy, the hearing threshold was improved by an average of 15.0±9.7 dB, and 53.3% of subjects had improved by 10 dB or more. The speech discrimination score was improved from 12.6±7.0% to 54.4±6.4%. In the ITS group, the pre-salvage pure tone threshold was 68.8±16.0 dB. After the therapy, the hearing threshold was improved by an average of 10.7±9.8 dB, and 43.3% of subjects had improved by 10 dB or more. The speech discrimination score was improved from 13.3±6.0% to 46.4±12.9%. The degree of hearing improvement was significantly greater in the TTSP group.

Conclusions: Near-continual transtympanic steroid perfusions may provide better audiological results.

Keywords: IDIopathic sudden sensorineural hearing loss, transtympanic perfusion, intratympanic injection, vertigo, Silverstein MicroWick, salvage therapy

PO91 // OTOLOGY // Oncology, head and neck, oral cavity, pharynx and trachea
Carotid stenosis and radiotherapy: a 3 years prospective study
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‘Sapienza’ University of Rome

Our aim was to determine the prevalence of radiation-induced carotid stenosis, in patients who were treated for
head and neck malignancies, using colour-flow duplex scanning.

We enrolled two groups of patients. The first (radiotherapy group) consisted of patients who received surgical treatment and adjuvant neck radiotherapy. The control group consisted of patients with head and neck malignancies who received only surgical treatment.

All patients were evaluated with carotid artery ecoDoppler imaging 1 week before and 36 months after the surgical procedure. Intima-media thickness was measured bilaterally at the internal carotid artery and at the bifurcation. Carotid obstruction was classified as low (0–30%), moderate (31–49%) or severe (>50%).

The preoperative stenosis grade did not differ between groups. In 15 %, 25 patients (60%) in the radiotherapy group, mild stenosis evolved to moderate stenosis, while only 6 %, 37 (16%) of the controls did (P = 0.004). Additionally, 9 %, 39 (23%) patients in the radiotherapy group progressed to severe stenosis compared with only 3 %, 54 (6%) controls (P = 0.029). The overall evolution showed that stenosis worsened in 24 %, 32 (62%) patients in the radiotherapy group and 9 %, 54 (17%) patients in the control groups (P < 0.0001).

These results highlight the need to study the long-term incidence of cerebrovascular events in these two different populations (radiation treated and surgically treated) to identify increased cerebrovascular morbidity.

Keywords: carotid stenosis, neck radiotherapy

PO92 // OTOLGY // Otology and facial nerve
Impact of selected molecular factors on recurrence of inflammation in chronic otitis media
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Introduction. Molecular and cellular events are now underlined in mechanism of chronic otitis media (COM). Purpose. To determine the impact of selected molecular factors on recurrence in COM. Materials and Methods. The study was performed on groups of patients with COM of different clinical course. The markers of apoptosis (apo-1-Fas/CD95, PS protein), proliferation (Ki67 antigen), angiogenesis (CD34 antigen), monocytes/macrophages, mast cells, tumor necrosis factor-alpha (TNFα), interleukin-1beta (IL-1β), interleukin 6 (IL-6), monocyte chemoattractant protein-1 (MCP-1) were measured immunohistochemically in granulation tissue specimens taken during surgery. A multivariate stepwise linear regression analysis was performed to estimate the relationship between the course of the COM and following factors: age, sex, bacterial infection, type of COM and expression of measured markers. Results. Lower IL-6 level and intensity of CD34+, higher IL-1ß level and density of mast cells, and coexistence of Pseudomonas aeruginosa/Proteus sp/Staphylococcus MRSA infection, were the variables that had contributed significantly to the recurrence of COM. Additionally higher Ki-67, PS3 protein, TNFα levels and younger age were related to the recurrence. The final model (R = 0.83, p=0.001) explained 69% of variance.

Conclusion. Angiogenesis, interleukin 1ß and 6, and mast cells and co-morbid bacterial infection difficult to eradicate may contribute to recurrence of inflammation in COM.

Keywords: chronic otitis media, recurrence, molecular factors

PO93 // OTOLGY // Audiology
Specialty of hearing in children with auditory neuropathy
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Tashkent Medical Academy

Background: Introduction of objective methods appeared possible lifetime topical diagnosis of peripheral lesions structures of sound-perceiving apparatus.

Purpose: to determine characteristics of auditory perception in children with auditory neuropathy (AN).

Methods: The study was conducted at the 2nd Clinic Tashkent Medical Academy covered 105 children. Parents were noted hearing loss (HL) in their children, underdevelopment of speech, inattention and distraction.

Results: AN was diagnosed in 28 children and Otoacoustic emission (OAE) registered in 12 patients. We carried out the registration standard auditory brainstem response (ABR) at various stimulus signal intensity (10 to 70 dB). Latencies of ABR peaks were statistically significant (P <0.05) greater in intensity stimulation signal 40 dB or more (at lower levels of stimulation, we did not compare these figures, since there has been no reliable detection of peaks). Thus, indicators of auditory function in children with HL on the background showed they have the signs of defeat sound analyzer.

Conclusions: Registration of ABR and OAE can detect hearing disorders in children in early ages. Complex study auditory function in children with pre, ante, or postnatal pathologies provides an opportunity to figure out features of the hearing, to develop appropriate approaches to rehabilitation.

Keywords: hearing loss, auditory neuropathy, otoacoustic emission, auditory brainstem response

PO94 // OTOLGY // Neuro-Otology and vestibular system
Sudden sensorineural hearing loss and cardiovascular risk factors
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Centro Hospitalar e Universitário de Coimbra

Sudden sensorineural hearing loss (SSN) is a devastating symptom.It’s etiology is variable with most being idiopathic. The vascular theory implies a diminished inner ear blood supply. Cardiovascular and metabolic diseases have an important treatment and prognosis role in SSN, moreover if a vascular etiology is implied. Retrospective study of 45 consecutive patients with the diagnosis of SSN. Sixteen of the 45 patients presented with total deafness (35.6%).Total deafness patients were older (55.3±12.0 vs 52.1±15.9, p>0.05), with higher total cholesterol levels (236.6±227.7 vs 203.3±44.7mg/dl, p>0.05) and more frequent comorbidities (arterial hypertension: 43.8% vs 36.2%; dyslipidemia: 75% vs 10%, p>0.05). Moreover, the mean recovery was 39.5±28.2dB (patients with total cholesterol%190mg/dl) and 35.3±30.5 dB (<190mg/dl), p=0.05.Hypercholesterolemia was present in 68.9% of patients. This group of patients had an mean recovery of 39.6±227.2 for%190mg/dl and 36.7±40.6dB<190mg/dl (p=0.017).

Sudden sensorineural deafness is a challenge diagnosis because of the lack of an universal approach and treatment. We observed a significantly higher incidence of hypercholesterolemia in the group of patients with total deafness as well as a worst recovery.It leads us to consider dyslipidemia as playing an important role in SSN, what has important clinical implications. We suggest doing a cardiovascular profiling to every patient diagnosed with SSN and treat associated hypercholesterolemia more aggressively.

Keywords: sudden sensorineural deafness; dyslipidemia

PO95 // OTOLGY // Neuro-Otology and vestibular system
Autoimmune Sensorineural Hearing Loss: Case Report and Review
Carolina Durao, Inês Delgado, João Pedro Leandro, Gabão Veiga (Portugal)
Hospital Prof Doutor Fernando Fonseca

Autoimmune sensorineural hearing loss (ASHL) has been increasingly recognized as a clinical entity since its description by McCabe in 1979. Diagnosis and proper management of this condition is important, as it is one of the very few forms of sensorineural hearing loss that can be successfully treated by medical therapy.

One case of ASHL with recovery of hearing loss with therapy is described. A 46-year-old man with previous history of left ear deafness and vertigo presented with rapidly progressive right ear hearing loss. The physical examination was normal. The audiogram revealed a total deafness in the left ear and a moderate sensorineural hearing loss in the right ear. Exhaustive workup was done, namely VNG, MRI and laboratory tests. VNG showed absent vestibular responses on the left side. There was reactivity to Anti-68 KDa antibody. All the other tests were normal.

Treatment was started with Prednisone 1mg/kg/day during one month with tight follow up. The patient showed corticosteroid responsiveness and recovered the hearing in the right ear. Prednison was then tapered slowly, in order to obtain a sustainable response. A year after the diagnosis the patient was without medication and had no relapse of the hearing loss.

This presentation focuses on a case report and on the recent progresses in the knowledge about the aetiopathogenesis, the laboratory tests, diagnosis and management of this interesting condition.
Gastrostomy tube retention rates in head and neck cancer patients 12 months post completion of primary chemoradiation treatment

ENYINNAYA OFO, D Cope, F Salim, R Simo, J-P Jeannon, R Oakley, M McGurk, A Lyons, T GuerreroUrbano, M Lei, R Donnelly (United Kingdom)

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Surgically lead first consultation Health Promotion Work in Head and Neck Cancer: Impact and feasibility of a brief smoking cessation (SC) intervention

Mr Richard Oakley FRCS (ORL-HNS), E Ofo, M.W. Tang, C Dale, A Lyons, M McGurk, JP Jeannon, R Simo, T GuerreroUrbano, M Lei, A Purushotham, J Ferguson, H Moller, J Gallagher (United Kingdom)

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Outcomes following initial presentation and diagnosis of head and neck cancer via the emergency route

Mr Enyinnaya Ofo BSc(Hons) FRCS(ORL-HNS) PhD, Aanisa Khan, Daron Cope, Jean-Pierre Jeannon, Fakruddin Salim, Mark McGurk, T GuerreroUrbano, M Lei, Richard Oakley, Ricard Simo (United Kingdom)

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Liposculpture and Stem Cells

Ibrahim El Achkar, Wissam Achkar (Liban)

Clinic Dr Ibrahim El Achkar

Liposculpture and Stem Cells ( Reversing Aging )

Liposculpture with autologus fat graft is one of the best durable, safest and regenerative procedures of the face and body. Between January 2000 and January 2010, 5200 patient have been treated with liposculpture.

In this study, we discuss the aesthetic result and regenerative action of fat graft, fat enriched stem cells (A. Fat Tissue + Adipose-Derived Stem & Regenerative Cells (ADRCs)), Adipose-Derived Stem & Regenerative Cells (ADRCs) and pure stem cells.

The use of fat graft with or without ADRCs provides great results in aesthetic, rejuvenation and regenerative procedures .There is an enormous amount of promise with stem cells in plastic and reconstructive surgery, which needs at least 5 years to be scientifically approved.

PP03 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery

the osteoplastic frontal sinusotomy

Osteoplastic Frontal Sinusotomy, Karol I.M., Yeshenka S.V. (Belarus)

432 Main Military Clinical Medical Center

We present the osteoplastic frontal sinusotomy including development an osteoplastic flap with using a CO2 laser. 78 patients have been treated surgically in the ENT Department of the Minsk Regional Clinical Children’s Hospital between January 1 2001 and December 30 2012.

With CO2 laser application the anterior frontal table was osteotomized and osteoplastic flap was formed with mucoperiostial attachment for blood supply.

The bone table is then removed or outfactured to allow complete sinus visualisation, including ducts and ostia. Then, the main purposes of the operation were achieved. During next stage of operation we made symmetrically positioned holes by drill or CO2 laser in the frontal bone and osteoplastic flap followed by their fixation.

Complications were encountered in some of these cases (frontal pain, postoperative sinusitis, temporary hypo- or anesthesia in the zone of innervation of supraorbital nerve), but major complication such as death, meningitis, brain abscess, mucocele or mucopyocele have not been recorded. There were no cases of flap necrosis, cosmetic effect was found as quite satisfactory.

CO2 laser application used to prevent cracking when the bone fragments were thin and fragile.

Osteoplastic frontal sinusotomy was found to be sparing and effective technique for operative management on frontal sinus pathology, ensuring both good cosmetic and functional results.

PP04 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery

Microvascular free flap reconstruction in head and neck, a rural Center experience in Egypt

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Oncology Center, Mansoura University, Egypt

Purpose: No less than 15 donor sites exist for free tissue transfer to head and neck defects. The aim of this study is to assess the feasibility of five of the commonly used free flaps for reconstruction of head and neck defects after ablative surgery.

Patients and Methods: This study includes 30 patients diagnosed as head and neck tumours presented to the Surgical Oncology Unit, Oncology Centre - Mansoura University from September 2008 to March 2011. The study utilizes 5 different microvascular free flaps: Free Jejunal Flap (11 cases), Free Fibular Flap (8 cases), Free Iilac Crest Flap (2 cases), Free Radial Forearm Flap (5 cases) and Free Anterolateral Thigh Flap (4 cases). Microvascular free flaps will be viewed as consisting of 3 essential stages: (1) Tumour excision, defect assessment and
Preparation of recipient vessels, (2) Flap harvest and flap inset. And (3) Microvascular anastomosis.

Results: In our study, the mean operative time was 7.57±0.59 hours. The overall flap survival rate was approximately 90% without any gender or age specific differences. Donor site complications rate was 13.3%, recipient site complications rate was 20%.

Conclusion: At Oncology Centre-Mansoura University, We will continue to offer microvascular free tissue transfer as the preferred method of reconstruction in appropriately selected patients with head and neck disease trying to develop more new techniques helping to achieve the maximum aesthetic and functional results.

**Keywords** // Microvascular, free flap, reconstruction, head and neck

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**PP05 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery**

**Local Flaps for Facial Cutaneous Cancers**

Poissonnet Gilles, Dassonville Olivier, Bozec Alexandre, Santini José (France) centre Antoine-Lacassagne-iUFC

**Introduction**

According the defect, many options are possible to repair cutaneous loss: direct sutures, skin graft, local flaps and regional or free flaps. Among them, local flaps are the most often used for facial area. We will focus on the basic flaps, particularly the ones sufficient to repair the great part of the cutaneous area.

**Materials and methods**

We will describe the most commonly used flaps with their pros and cons and the technical aspect of each flap.

**Discussion**

There are two types of flaps, the proximal and the pedicle flaps. Through case report overview, clinical indications and results are discussed.

**Conclusion**

Only a few techniques allow to repair nearly any facial skin loss. However, the knowledge of facial anatomy and a good practical training are required to get a good outcome.

**Keywords** // Facial skin cancers, Cutaneous loss, Local flaps, Reconstructive surgery

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**PP06 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery**

**Prelaminated Free Flaps for Total Ear Reconstruction**

Sven Olof Wikstrom, Per Alberius, Ivan Pavulovic (Sweden) Scandinavian Ear Reconstruction Centre, Dept of Plastic and Reconstructive Surgery

In the difficult secondary cases of ear reconstruction, with poor local skin quality and without temporal fascia available, alternative techniques have to be used. We present a novel technique using prelaminated auricular free-flaps either from the radial forearm or the antero-lateral thigh (ALT). To our knowledge, the ALT-flap has not earlier been described for such reconstructions. At the first stage we insert a tissue expander. After 4-6 weeks the expander is exchanged with a sculpted cartilage frame-work. A vacuum drainage kept for 4 days helps to shape the skin over the framework. At the earliest six weeks later, the prelaminated free flap is raised and micro-surgically transferred and positioned. The vessels are sutured to the facial artery and vein and the lateral cutaneous nerve to the great auricular nerve. The temporal vessels can also be chosen for the vessel anastomosis. During the following operation the ear is elevated and, if needed, skin grafted on the posterior aspect. Trimming and repositioning on the anterior side of the ear is wisely performed later. There is always a profound swelling of the ear postoperatively which persists for several months. The results have been very promising and patient satisfaction is very high. The procedure is technically advanced and requires qualified knowledge and skills in both autologeous ear reconstruction as well as microsurgery.

**Keywords** // ear reconstruction, prelaminated free flap,

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**PP07 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery**

**Three Stage Ear Reconstruction with Minimal Invasive Technique**

Sven Olof Wikstrom, Martin Öberg (Sweden)

Scandinavian Ear Reconstruction Centre, Dept of Plastic and Reconstructive Surgery

Since 1995 we have performed more than 350 ear reconstructions with autologeous rib cartilage. During the last decade we developed a Minimal Invasive Three Stage Technique. We wanted to optimize the aesthetic results and the postoperative wellbeing, as well as minimizing the complications, operating ours and hospitalization.

**Methods:** First stage: harvesting the costal cartilage and sculpting the framework. Transpositioning of the lobule and insertion of the frame-work in a subcutaneous pocket. The ear is kept in position by two vacuum drainages and a two component silicon putty.

Second stage: the ear is elevated and the backside is covered with a full thickness skin graft.

Third stage: trimming of excess skin/cartilage and inserting a cartilage spacer between the ear and the mastoid.

**Results:** The complication rate has been very low; pleural rift 6%, necrosis/ulceration 4%, infection 1%. There has been no case of total loss of the ear due to major complication. The total operating time for all three stages does not exceed 4 hours (2.5 + 1 + 0.5 h). The aesthetic results have been very satisfactory.

**Conclusion:** Ear reconstruction with the three stage Malmo technique has a low rate of complications, is less time consuming and gives very good aesthetic results.

**Keywords** // ear reconstruction, microtia,

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**PP08 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery**

**Treatment of Vascular Malformations of the tongue - The Middlesbrough Experience**

Mr James Wokes, Mr Tobian Muir (United Kingdom) James Cook University Hospital

**Introduction and Aims**

Vascular Malformations of the tongue represent a difficult management challenge. Surgical excision sacrifices tissue and is often followed by recurrence. We present our experience of non-surgical Bleomycin sclerotherapy treatment of tongue vascular malformations and the utilisation of Remifentanil sedation for such patients.

**Material and Methods**

Analysis of a prospectively collected database revealed 21 vascular malformations of the tongue treated by a single surgeon between 2004 and 2013. Previous treatment, total Bleomycin dose, number of treatments and the clinical outcomes were evaluated.

**Results**

We treated 11 male and 10 female patients aged 2-68 with a mean age of 31. The lesions treated were 11 venous and 10 lymphatic malformations. Total Bleomycin dose ranged from 0.7-81.6mg with a mean of 10.3mg per patient. The number of treatment sessions ranged from 2-9 with a mean of 4.9 sessions. All patients reported improvement in symptoms associated with the lesion and over 60% of patients reported significant reduction in the size of the malformation.

**Conclusions**

The treatment of vascular malformations of the tongue remains a specific challenge. We have found Bleomycin sclerotherapy to be an excellent non-surgical management choice with a high degree of patient satisfaction. Treatments are performed in 15 minutes under Remifentanil sedation, most

**Keywords** // Vascular malformations; Tongue; Bleomycin

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**PP09 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery**

**Laser Surgery in Rhinophyma**

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Introduction: Rhinophyma is an advanced stage in the evolution of chronic acne rosacea which causes the growth and deformation of the nasal pyramid, creating an unaesthetic image of the nasal pyramid.

Objective: The aim of study is to prove the results and the advantages of CO2 laser surgery in rhinophyma treatment.

Material and method: This retrospective study has been done on 14 patients with ages between 62“71 years, over a period of 7 years, between 2001“2007. Two cases associated nasal obstruction by hypertrophied skin from the nostril. The operation included decortication of nasal pyramid with CO2 laser. The lesion was precisely isolated from the rest of the tissue, depending on the macroscopic image. Nasal cartilage integrity and architecture of the nose were preserved.

Results: Throughout the postoperative, average of 3“4 weeks, the scarring process was excellent, without tissue reactions of fibrosis or nostril stenosis. We achieved a perfect aesthetic look of the nose. Local recurrence was absent, the postoperative pain was reduced or absent. There were no infections or bleedin complications. No skin graft was necessary.

Conclusions: Aesthetic and functional results depends on surface, depth and accuracy of the resection. Laser surgery is the perfect method of surgical treatment in this disease, compared with classic surgery of rhinophyma.

Keywords: rhinophyma, laser surgery, decortication.

PP10 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery
CRANIOFACIAL BONE RECONSTRUCTION WITH A FIBER-REINFORCED BIOACTIVE COMPOSITE IMPLANT
Kalle Aitasalo, Jaakko Piitulainen, Jami Rekola, Pekka Vallittu (Finland)
Department of Orothinalaryngology "H" Head and Neck Surgery, Turku University Hospital

Introduction
Large skull bone defects cause both functional and aesthetic problems to the patients. A bioactive fiber-reinforced composite is presented to address some of the problems faced in current options for craniofacial bone reconstruction. Synthetic, osteoconductive and antimicrobial, bioactive glass SS3P4 (BAG) with E-glass fibers in a new custom made composite implant for craniofacial reconstructions.

Material and methods
Retrospective series of 27 patients has operated with craniofacial deformity during 2007-2012. After the skull defect characterized with three-dimensional computer tomography, a rapid prototype model of the skull was made from polyamide with a selective laser sintering method. This model was then used to manufacture a customized implant. The implant material consisted of a supporting fiber-reinforced framework, porous inner layers and bioactive glass filling. The composite structure of the implant allowed the biomechanical excellence of the fiber-reinforced structure to be coupled with the properties of bioactive glass.

Results
The aesthetic and functional outcomes of all patients were good and patients were satisfactory for reconstructions. No infections, skin problems or hair growth distortions were reported. Normal progressive wound healing was observed in 26 cases out of 27.

Conclusions
Reconstruction of difficult skull defects with the novel bioactive composite implant is a promising solution compared to conventional materials.

Keywords: Craniofacial bone reconstruction, fibre-reinforced composite, bioactive glass, craniootomy, skull bone defect

PP11 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery
Local vs General Anaesthetic for Nasal Fracture Management: A Comparative Study
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Royal Derby Hospital

Aims
Manipulations of uncomplicated nasal fractures can be managed under a local or general anaesthetic. The choice of technique utilised varies between departments and individual clinicians. Our study aimed to compare the outcomes of nasal fractures reduced under general and local anaesthesia.

Methods
There were a total of 50 patients recruited, 25 managed using a local anaesthetic infratrochlear nerve block and 25 using a general anaesthetic. The primary outcome was cosmetic appearance following the procedure; this was reported by both the surgeon and patient. Secondary outcomes were complications and pain.

Results
There was no statistically significant difference (P>0.05) between the two groups in terms of patient satisfaction with the position of reduction, complications and perceived pain. Furthermore patients reported an improved experience as they were able to have definitive treatment at their first attendance. In addition the department noted cost savings and increased availability of theatre space to accommodate other surgical procedures.

Conclusion
Nasal fractures can be managed safely, effectively and efficiently under a local anaesthetic as an outpatient procedure. There is no difference in terms of patient outcome whilst there are significant cost savings and an improved patient experience.

Keywords: Nasal Fracture, Trauma, Anaesthesia, Aesthetics

PP12 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery
Use of cartilaginous autografts in secondary rhinoplasty
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ENT Clinic Nis

Use of cartilaginous autografts in secondary rhinoplasty

The use of cartilaginous autografts in secondary rhinoplasty is being increasingly used. Autogenic material is the best grafting material, regarding its high biocompatibility and low risk of infection and rejection. The nasal septal cartilage is considered to be the best grafting material used in rhinoplasty. In the lack of sufficient amount of material taken from the nasal septum, the auricular cartilage has proved to be an excellent grafting material in secondary rhinoplasty. In cases of complex defects, where the needs for structural compensation are great the rib cartilage grafts are used. The results obtained after the cartilaginous autograft augmentation in secondary rhinoplasty are rather promising and possible complications include graft moving, infection, resorption and fibrosis.

The aim of this paper was to present our experience in using cartilaginous autografts in secondary rhinoplasty. It has been demonstrated that the use of autogenic cartilaginous grafts is a valuable option in secondary rhinoplasty. Preoperative assessment is very important for the choice of type, kind, shape and size of autografts as it yields good results and low percentage of postoperative complications. Our experiences confirm the advantages of cartilaginous autografts’ use in secondary rhinoplasty.

Key words: cartilaginous autografts, secondary rhinoplasty

Keywords: cartilaginous autografts, secondary rhinoplasty

PP13 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery
Nasal reconstruction with autologous grafting technique for tumorous patients and cleft-palate patients considering the aesthetic units of the nose
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Department of Oto-Rhino-Laryngology and Head and Neck Surgery, *Department of Dermatology and Allergology, Plastic and Reconstructive Surgery Division, University of Szeged, Hungary

Functional and aesthetic reconstruction of nasal defects after tumour resection and late nasal reconstruction of patients with cleft palate is challenging in spite of the thorough preoperative planning. To be able to fully achieve both goals mentioned above we have to reconstruct all tissue layers of the nose as suggested by the international literature as well.
At our Departments we reconstruct total and partial nasal defects after the resection on malignant skin cancers, and on the other hand we do late nasal reconstruction for patients with cleft palate. Autologous cartilage grafts (costal, septal, auricular) are used for sculpturing the framework; local, rotational and transpositional skin flaps are administered for the inner lining and outer coverage of the nose.

We present our results with the autologous grafting technique and the complex tissue reconstruction technique according to the aesthetic units of the nose, with the help of which good functional and aesthetic outcome can be achieved.

Keywords: Nasal reconstruction, autologous grafting technique, aesthetic unit

PP14 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery

Septal cartilage for repairing partial defect of auricule.

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National University Trauma Center

Case report
The patient has a old amputated portion of auricle it was located at 13 upper left auricle and consist of helix region. Size defect was 3.5cm in length and 1.5 cm depth.

We took septal cartilage and its base, sized more than defect itself from patient. Skin incision was made at a free skin margine of amputation. Cartilago graft was connected with auricular cartilage and at the height of amputation and a skin incision is made over the mastoid and was created a pocket for the graft and margin was connected with the margins of te auricular skin. The skin is closed primarily and the wound drained. Mattress sutures have been left for 14 days. Three months after a second operation was made. Auricle was been lifted away from the mastoid and was made primary closure of auricular and retroauricular the skin defect.

Conclusion: Septal cartilage could be adapted in according to amputated portion of auricule.

Keywords: auricul, amputation, septum

PP15 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery

Combined surgical treatment of nose deformations with pathology of nasal cavity and accessorial nasal sinuses

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ENT Department of Yerevan State Medical University

The article presents the experience of combined surgical treatment of 112 patients with nose deformations and pathology of nasal and accessorial nasal sinuses. During the surgical interventions some methods of operation were optimized and improved. According to our results the mixed surgeries will be performed in the ENT clinic. Nasal breathing was satisfying in all cases. Simultaneous operation of combined pathologies of nose, nasal cavity and accessorial nasal sinusases showed their effectiveness and possibility. No postoperative complications was reported.

Keywords: nose deformation, nasal septum, rhinoseptoplastia, sinustitis, endoscopy of nasal sinuses

PP16 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery

[Theme: Augmentation, revision rhinoplasty and repair of through and through defects of alar nose rim margine in several post traumatic cases.]

Gjerji Bžhag, Naxhallari Khevahir (Albania)
National University Trauma Center

Goal: To point out results of corrections in different cases of various post traumatic deformities.

Objectives:
- Repair of esthetic defect of nasal pyramid or through and through defects of traumatic origin that create a profound damage or missing of different tissues using autologous material graft or composites.

Material and results:
We present twelve cases with severe nasal defects in which near-total reconstruction was planned. In one case we took graft from iliac crest (1/12), in one other case we used composit auricular graft (1/12) and in one case we used the hump and viable flap tip cartilages (1/12) and in three others we used preserved homograft cartilage (3/12) in three cases we used parts of nasal septum (3/12), three other cases were merely revision rhinoplasty.

Three cases of traumatic origin, after submitting trauma in growing phase (3/12) one of them has a deformity following a dog bite at the age of 10, three other cases of traumatic origin after car accidents (3/12) and the six cases had iatrogenic origin after rhino and septoplasty (6/12). Autologous tissues have been required in patients with severe nasal defects. Interventions were performed either via endonasal or an open rhinoplasty approach.

Conclusion:
Results of revision rhinoplasty and augmentation in various form of depressed nasal dorsum were satisfying related to consistency and flexibility of nasal pyramid. Appearance was obviously improved in cases that had soft tissues nasal defect.

Keywords: augmentation, rhinoplasty, trauma

PP17 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery

Treatment of Vascular Malformations of the tongue - The Middlesbrough Experience

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James Cook University Hospital

Introduction and Aims
Vascular Malformations of the tongue represent a difficult management challenge. Surgical excision sacrifices tissue and is often followed by recurrence. We present our experience of non-surgical Bleomycin sclerotherapy treatment of tongue vascular malformations and the utilisation of Remifentanil sedation for such patients.

Material and Methods
Analysis of a prospectively collected database revealed 21 vascular malformations of the tongue treated by a single surgeon between 2004 and 2013. Previous treatment, total Bleomycin dose, number of treatments and the clinical outcomes were evaluated.

Results
We treated 11 male and 10 female patients aged 2-68 with a mean age of 31. The lesions treated were 11 venous and 10 lymphatic malformations. Total Bleomycin dose ranged from 0.7-81.6mg with a mean of 10.3mg per patient. The number of treatment sessions ranged from 2-9 with a mean of 4.9 sessions. All patients reported improvement in symptoms associated with the lesion and over 60% of patients reported significant reduction in the size of the malformation.

Conclusions
Treatment of vascular malformations of the tongue remains a specific challenge. We have found Bleomycin sclerotherapy to be an excellent non-surgical management choice with a high degree of patient satisfaction. Treatments are performed in 15 minutes under Remifentanil sedation, most often as day cases but occasionally with an overnight stay if the lesion is extensive.

Keywords: Vascular malformations; Tongue; Bleomycin

PP18 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery

ESTIMATION RESTORED LIPS AFTER CHEYLOPLASTY AT AN INBORN CLEFT UPPER LIP AND THE PALATE

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Tashkent Medical Academy

Profound studying of a condition of bodies of maxillofacial area, at children in norm and at pathological processes, is almost impossible without the analysis of a complex of the indicators characterizing activity of face muscles. In this respect wide prospects are opened by application electromyography (S.N.Besson, 1991; K.F. Genaro et al, 1994).

Research objective: To estimate degree restored bilateral symmetry of an upper lip, after primary cheyloplasty.

Materials and research methods: At 18 patients at the age of 3-4 years, after spent cheyloplasty, parameters of a circular muscle of a mouth are removed.
From them at 7 it is spent primary cheloplasty on a method of Obuhovo-Tennis, at 11 on method Millard D.R. Researches have been directed on a comparative estimation of parameters on the operated and healthy party. At all investigated patients removal of potentials in rest was spent and at crying, both on the healthy party, and on the crevice party.

Conclusions: Thus, the comparative analysis of results electromyography estimations of a circular muscle of a mouth at 18 patients with at an inborn cleft upper lip and the palate, after primary cheloplasty on methods of Obuhovo-Tennis and Millard D.R. Has convincingly proved advantage of method Millard D.R. in restoration of speed of carrying out of an impulse on impellent fibres and bioelectric activity.

Keywords // cheloplasty, cleft upper lip and the palate, electromyography

PP19 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery
Absence of inferior lateral nose cartilage (clinical case).
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Odinenco Rhinology Center

Introduction. Nose trauma often results in various deformations of nose cartilages, which leads to mandatory rhinoplasty.

Materials and methods. We present a clinical case of a 25 year old woman, who was consulted for rhinoplasty. During physical examination the patient demonstrated a thick and asymmetric nasal tip, a hump and widening of the nasal bridge. There was a small, thin, barely invisible scar on the skin of nasal tip as a result of trauma at the age of 3 years old. Inferior lateral cartilages practically could not be palpated. During the operation the total absence of the right inferior lateral cartilage was revealed. At the same time the left inferior lateral cartilage was developed normally. An autotransplant was formed from the patient’s own four-cornered cartilage and implanted instead of the absent inferior lateral cartilage. The postoperative period proceeded without complications. After one year the result of the operation was qualified as “good”

Conclusion. Nose trauma may lead to full resorption of the cartilage. Before planning and implementing rhinoplasty it is necessary to consider all anamnestic details, thoroughly examine patients and be ready for possible reconstruction of absent nose cartilages.

Keywords // rhinoplasty, nasal cartilage, nose trauma

PP20 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery
The posterior auricular muscle as an anatomical landmark to prevent breaching of external auditory canal skin during pinnaplasty: A radiologically-guided surgical study.
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Background: The role of the posterior auricular muscle (PAM) in the pathogenesis and correction of prominent ears is widespread in the literature. Operative techniques vary. A common complication is inadvertent perforation of the ear canal skin during removal of post-auricular soft tissue. This study investigates the identification of the borders of the PAM as a consistent anatomical landmark for the external auditory canal (EAC).

Method: A retrospective study using the RADIS II database. Paediatric MRI head scans with contrast in East Aberaw Bro Morgannwg Health Board over a two-year period were identified. T1 weighted axial images were examined using both multiplanar reformatting and the crosshair facility on PACS system, allowing the correlation of the level of the belly of the PAM on axial images with the EAC on the corresponding axial plane.

Results: Thirty scans were identified. All demonstrated that the belly of the PAM lies at least at a level on sagittal views that corresponds to the EAC superior border. Comparative intra-operative photos of the PAM position were also obtained.

Conclusion: Identifying the PAM as a landmark during pinnaplasty is simple and to be commended to all pinnaplasty surgeons. The muscle position allows surgeons to adjust their approach to produce improved results by identifying the level of the EAC, thus reducing the risk of inadvertent perforation of the EAC skin during post auricular soft tissue removal.

Keywords // Pinnaplasty, complications.

PP21 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery
Reconstructive Rhinoplasty using of Facial Skin Flaps in surgery of nose basal cell carcinoma
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University of Medicine "Carol Davila"Bucharest, Romania

Basal cell carcinoma is the most common type of skin cancer,85% are located in the head and neck area, of which 30% on the nose. The author presents a retrospective study, own experience, in surgical treatment in 45 cases with basal cell carcinoma of the nose operated in the period 2005-2012. In all of the cases in this study, it was performed surgical methods depending from the tumor localization and extension.

Reconstructive rhinoplasty, treatment method, was radical surgical excision with safety margin of the tumour and repair of the skin defect of the nose using facial skin flaps.

Keywords // basal cell carcinoma, reconstructive rhinoplasty, facial skin flap

PP22 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery
Rhino-septoplasty in cases with the Crooked Nose
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ENT Clinic “Coltea” Hospital,University of Medicine “Carol Davila” Bucharest

The author presents a retrospective study in 100 cases, own conduct as regards the surgical management in the crooked nose.

The crooked nose deformity is a common reason patients to seek rhinoplasty. To straighten a crooked nose is viewed by many surgeons as the most challenging aspect of rhinoplasty. A crooked nose deformity can be congenital or sequelae of trauma inclusive previous rhinoplasty surgery. For a correct surgical plan is very important to do a good preoperative analysis and a detailed physical examination of a crooked nose. The author has performed the endonasal and external approaches for rhinoplasty. For correcting the crooked nose were necessary more techniques in a following order: septum, nasal tip, cartilaginous, bony vault and suture procedures with or without grafting materials.

Before final closure, the nose should be inspected from several angles.

Keywords // rhino-septoplasty, crooked nose, nasal septal deviation.

PP23 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery
MANAGING RHINOPHYMA: AN IMPORTANT LESSON
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INTRODUCTION: Rhinophyma is the end stage of acne rosacea affecting the nose. It is a benign entity characterised by sebaceous hyperplasia and fibrous follicular plugging predominantly affecting Caucasian males in their 5th to 7th decade. There are increasing reports of carcinomas arising in these lesions and this case report and literature review highlights the need for histological analysis of all specimens resected to avoid missing occult carcinoma. CASE REPORT: We report the case of a 73 year old gentleman who presented with a lesion on the dorsum and left alar of the nose which had been increasing in size for the last 2 years causing nasal obstruction and aesthetic concerns. Scalpel excision and dermabration was performed under local anaesthetic. Histopathological analysis of the resected specimens revealed both rhinophyma and a basal cell carcinoma extending to the resection margin. He underwent further surgery with an elliptical excision and analysis of this specimen did not demonstrate any evidence of residual carcinoma. DISCUSSION: Surgical techniques for treating rhinophyma include laser ablation, electrocautery and cryosurgery along with our described technique. This case highlights the risk of concurrent basal cell and other carcinomas with rhinophyma although evidence of an association is inconclusive. This case highlights the importance of sending all resection specimens for histological analysis and choosing a surgical technique that is amenable to this.

Keywords // Rhinophyma, Basal Cell Carcinoma

PP24 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery
Assessing Mid-dorsal de-projection of the nose – A new Scottish classification
PP25 // PLASTIC SURGERY // Plastic, aesthetic and reconstructive surgery

ONE STAGE FLAP COMBINATION FOR RECONSTRUCTION OF LARGE NASAL TIP DEFECT
Pirkl Irena, RaguļaN Ivan, FilipovićAt Boris (Croatia)
Clinical Hospital "Sveti Duh"

Background: Paramedian forehead flap is a preferred solution for resurfacing large nasal tip defects. Usually the procedure is carried out as a two stage reconstruction surgery with significant forehead scar. Here we present a case report of a patient with large primary skin carcinoma of the nasal tip extending to columella and sever co-morbidity. We performed reconstruction, under local anaesthesia, using our combination of three local flaps in a one stage reconstruction procedure.

Methods: Three local flaps where designed; one from nasal dorsum and two from sub-nasal region extending into the nasal floor. Subnasal flaps where rotated medially (for columellar reconstruction) and sutured together thus forming a stable caudal base for dorsal nasal flap.

Result: Aesthetic and functional result was excellent with no complications. Conclusion: This procedure is relatively simple, flap colour and texture are in good match with surrounding skin. Closure of the donor site can be obtained without visible scar.

Keywords // carcinoma, nasal tip defect

PR01 // RHINOLOGY // Rhinology Anterior skull base

Long-term outcome after endoscopic dacryocystorhinostomy for acquired nasolacrimal duct obstruction.
kristoffer piekarek, thomas runer (Sweden)
ENT-dept Blekingehospital

Background: Epifora and recurrent dacryocystitis are the main clinical signs of nasolacrimal duct obstruction (NLDO). Endoscopic dacryocystorhinostomy (EN-DCR) is a treatment with well documented good results during first 1-3 years after surgery. However, studies regarding outcome over a longer period of time are lacking. Measurements of quality of life after the treatment are also scarce.

Aim: To evaluate a surgical success rate and quality of life after EN-DCR.

Material/methods: Retrospective follow-up study on 50 consecutive patients undergoing EN-DCR. Surgical outcome and quality of life data were collected from hospital files and questionnaires.

Results: 87% patients were examined without signs of NLDO 1 year postoperatively. 78% patients had no complaints of dacryocystitis and 81% had no signs of chronic epifora after median follow-up time of 81 months (13-165 months). 83% individuals were so satisfied with the results of treatment, that they would recommend such a surgery to the others. Postoperative complications (local infection, bleeding) and no restitution of NLDO at 1 year after surgery predicts future problems with epifora and recurrent dacryocystitis in long-term follow-up (p<0.02). Improvement in NLDO examined 1 year postoperatively predicts patients to be very satisfied in the future (p<0.01).

Conclusions: EN-DCR provides patient relief from NLDO. God outcome confirmed 1 year after surgery is a good predictor of patients' satisfaction in long-term period.

Keywords // dacryocystorhinostomy, follow-up, surgical outcome, quality of life

PR02 // RHINOLOGY // Rhinology Anterior skull base

Nasal and paranasal sinus anatomical variations in patients diagnosed as having rhinogenic contact point headache
Navid Ahmady Rozbazehy, Semiramis Nasri (Iran)
Private practice

Objective: To define anatomical variations that may lead to rhinogenic contact point headache.

Methods: Paranasal sinuses CT scan and medical records of sixty five patients who underwent a successful endoscopic surgery for rhinogenic contact point headache reviewed.

Results: Eleven distinct anatomical variations were found in patients with rhinogenic contact point headache. All of them were surgically curable.

Conclusion: There are multiple anatomical situations that may lead to rhinogenic contact point headache and each one has its own characteristics. Treatment plan should be personalized for every patient considering the diagnosed anatomical variation

Keywords // nasal anatomy; Paranasal sinus; Contact point headache.

PR03 // RHINOLOGY // Rhinology Anterior skull base

Nasal and Paranasal Sinuses Anatomical Variations in Patients with and without Chronic Rhinosinusitis
Navid Ahmady Rozbazehy, Reza Vaez Afshar (Iran)
Private practice

Objective: To determine the presence of distinct anatomical variations in patients with chronic rhinosinusitis.

Methods: Coronal CT scan of paranasal sinuses were performed in 100 patients with chronic rhinosinusitis and 50 controls who were candidate of nasal surgery for a reason other than rhinosinusitis. Anatomical variations of nasal septum and paranasal sinuses were reviewed and compared among two groups.

Results: Patients with rhinosinusitis had significantly more numbers of high septal deviation, middle turbinate concha bullosa and large bulla ethmoidalis. Conclusion: Nasal cavity and paranasal sinuses have diverse anatomical variation and some of them may alter the susceptibility to rhinosinusitis.

Keywords // Nasal anatomy; Paranasal sinus; Rhinosinusitis.

PR04 // RHINOLOGY // Rhinology Anterior skull base

Our Experience in Dacryocystorhinostomy endoscopic surgery
Dr.Orijeta Tonuzi, Prof.Asi Ali Tonuzi, Dr. Manushaqe Batku, Dr.Bilbil Rakipi, Dr. Besa Voka (Albanie)
Albanian Eyes Center

Dacryocystitis is lachrymal sacus et canalicular lachrymal infection. It caused from staphylococcus and rarely from pneumococcus. It's chronic infection caused and nasolachrymal canalicul obstruction.

Today, DCR surgery consist of three methods:
1 - External DCR.
2 - Endoscopic DCR.
3 - Laser DCR.

In my country Albania but also Macedonia and Kosovo from January 2010 in Eyes Albanian Center is applied endoscopic DCR that has higher success rate than external DCR. Until now we are performed 119 cases with endoscopic DCR at age 16-75 years old.

The endoscopic DCR has distinct advantage over the external DCR.
1 - No facial scar
2 - Very short time duration of the intervention
3 - Low coetaneous complications
4 - Low receives
5 - Low bleeding
6 - Local anesthesia
7 - Low edema, low inflammatory local symptom.

140 interventions were carried in the period January 2011 until November 2011. We had 3 patients (2.52%) with relapse which was successfully interventions. The purpose of works is to give our experience in the first cases with DCR in Albania. This study is ongoing.

Keywords // DCR endoscopic Surgery

**PR05 // RHINOLOGY // Rhinology Anterior skull base**

Serial blood serotonin levels in a randomized controlled trial comparing the efficacy of low-dose amitriptyline, amitriptyline with pindolol and placebo in patients with chronic tension-type facial pain

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University of Malta

Chronic facial pain with normal nasal endoscopy and normal sinus CT has increasingly been recognized as having a neurological origin with a common underlying cause being mid-facial segmental tension-type pain (MFP). In tension-type pain, descending serotonin projections are thought to modulate nociception. Intra-platelet serotonin is an accepted model reflecting intraneuronal serotonin levels.

Objectives: To determine whether low-dose amitriptyline changes whole blood serotonin compared to placebo in patients with chronic MFP. To determine whether addition of pindolol, a beta blocker with serotonin receptor blocking properties further alters blood serotonin.

Setting: A busy otolaryngological practice on a Mediterranean island.

Method: 62 patients were randomized to three treatment groups (a) amitriptyline 10mg daily (b) amitriptyline 10mg daily with pindolol 5mg twice daily and (c) loratadine 10mg daily. Whole blood serotonin was taken before and after 8 weeks of treatment.

Results: There was a significant drop in blood serotonin in the amitriptyline with pindolol group (p=0.019, paired two tailed, two sample t test for means). A non-significant drop was seen in the amitriptyline group, with no change in serotonin in the placebo group. As recently reported, both (a) and (b) lowered pain scores in chronic MFP, with the latter being more effective. This study provides more evidence that the serotonergic neural system is involved in the modulation of chronic MFP.

Keywords // serotonin, tension-type pain, chronic facial pain, sinus pain, randomized controlled trial

**PR06 // RHINOLOGY // Rhinology Anterior skull base**

Paranasal Sinuses CT Scan Check list

Dr Salma Al Sheibi, Dr Asim Danwish (Quatar)
AL NAHDHA HOSPITAL

CT scan serves as a critical ‘roadmap’ for endoscopic sinus surgery. A systematic pre-operative interpretation of CT scan should be based on check list of the important details, landmarks and normal variants. This poster will outline a basic CT Scan check list which should be checked before doing endoscopic sinus surgery.

Keywords // CT scan, paranasal sinuses, check list

**PR07 // RHINOLOGY // Rhinology Anterior skull base**

Silent Sinus Syndrome

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East Surrey Hospital

Introduction: Silent sinus syndrome (SSS) is a rare idiopathic collapse of the maxillary sinus and orbital floor. We present the second largest series of sixteen patients with SSS and describe their management. Methods: A cohort of 16 patients with spontaneous SSS between 1999 and 2009 were reviewed at the Royal National Throat Nose and Ear Hospital. All patients were initially referred from a postgraduate ophthalmic hospital, Moorfields Hospital. Results: Fourteen patients required endoscopic sinus surgery to reestablish maxillary sinus drainage and the remaining two settled with intranasal medical therapy consisting of steroids and decongestions. Follow-up ranged from 6 months to 4 years with a mean of 2.6 years. An improvement in enophthalmos and was seen in all surgically treated patients with a mean improvement of 2.2mm and range 0.5-4mm. Discussion: SSS arises from congestion of the ostiomeatal complex resulting in negative pressure within the maxillary sinus and a gradual implosion of the antral cavity. Endoscopic sinus surgery successfully re-establishes maxillary aeration in our series and leads to clinical and aesthetic improvement in the degree of enophthalmos and has avoided the need for orbital floor repair in all but two cases.

Keywords // Silent Sinus Syndrome

**PR08 // RHINOLOGY // Rhinology Anterior skull base**

Computer-assisted surgery (CAS) in difficult sinonasal and skull base surgery

DR ALI A ALMOMEN, - (Saudi arabia)
KING FAHAD SPECIALIST HOSPITAL

Computer-assisted surgery (CAS) in difficult sinonasal and skull base surgery

- Computer-assisted surgery during minimal invasive endoscopic sinus and skull base surgery enhances the surgeon confidence, allow more thorough surgical dissections and possibly reduce the complications of the procedures and improve the clinical outcome.
- Difficult lesions like revision sinus surgery, distorted sinus anatomy, frontal sinus surgery, pediavtic extensive polyposis, fungal sinusitis with orbital and skull base erosions, lateral sphenoid lesions, complicated mucoceles abutting the orbit and skull base, CSF leaks with skull base defects, clivus and pituitary lesions, benign and malignant tumors will be presented and discussed.

Keywords // COMPUTER ASSISTED, SINONASAL, SKULL BASE, SURGERY

**PR09 // RHINOLOGY // Rhinology Anterior skull base**

isolated sphenoid Lesions

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KING FAHAD SPECIALIST HOSPITAL

Isolated sphenoid sinus pathology is a relatively uncommon disease. In this study we present our experience in minimal invasive endoscopic navigation-assisted surgery for 23 cases of different isolated pathologies affecting the sphenoid sinus.

Different pathologies like isolated sphenoid sinistitus, symptomatic hypoplastic sphenoiditis, aspergillosis of the lateral recess of the sphenoid, multiple CSF rhinorrhea, mupucocele with skull base erosion, different benign and malignant tumors (osteoma, inverted papilloma, lymphoma and carcinomas) of the sphenoid sinus.

The clinical presentations, the radiological findings and the endoscopic navigation-assisted managements will be presented and discussed.

Keywords // ISOLATED, SPHENOID, LESIONS

**PR10 // RHINOLOGY // Rhinology Anterior skull base**

The endonasal endoscopic approach to frontal sinus and frontal recess osteoma

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The endonasal endoscopic approach to frontal sinus and frontal recess osteomas has been increasing in use over the last decade. The aim: to present the results on endoscopic endonasal treatment of these tumors without the use of an external approach. Material and methods: A retrospective analysis of patients operated on over a 5-year period in a single center was performed.

Results: Thirty-three patients underwent endoscopic osteoma resection: 13 with type I, 2 with type II, 16 with type III, and 2 with type IV, according to the Chiu and Kennedy grading system of osteomas. Nine lesions extended 2 cm or more above the level of sinus’ ostium, 16 adhered to anterior table, 13 extended lateral to the virtual sagittal plane crossing the lamina papyracea, 3 of which were located just medial to midorbital line. The most common indication for surgery was frontal pain. Removal of the osteoma was incomplete in 3 cases, one of which underwent successful reoperation transanally. The other 2 cases involved tumors that extended close to the mid-orbital line, attaching to the
orbital roof. The mean pain intensity, measured using a 10-degree scale (0 - no pain, 10 - maximum pain), decreased from 7.4 to 3.5 [p

Keywords // Osteoma, frontal sinus, endoscopic surgery

PR100 // RHINOLOGY // Allergy

The compliance between serum sIgE levels and clinical findings in patients with a diagnosis of AR

BILAL CETIN, UGUR KARAPINAR, NERGIS SALMAN COSKUN, OMER SAGLAM, ENGIN DURSUN, (Turkey)

Gumussuyu Military Hospital

Objective: In this study we evaluated the relationship between the severity of symptoms and the number of antigen and serum IgE levels.

Method: Medical records of 147 adult patients with AR were evaluated retrospectively. The symptoms, watery discharge from the nose (** nasal congestion - sneezing and nasal pruritus, were classified as mild, moderate and severe and total nasal symptom scores were measured.

Results: There was no significant relationship between total nasal symptom scores and the number of allergens (r=0.045, p=0.59). There was no significant relationship between total nasal symptom scores and serum IgE levels.

Conclusion: There is no relationship between the severity of symptoms and the number of antigen and serum IgE levels.

Keywords // Allergic Rhinitis, Nasal Symptom Score

PR101 // RHINOLOGY // Rhinology Anterior skull base

Nasal stenosis following nasal packing

Vivian Lee, Hiba Alrefey, Claire Hopkins (United Kingdom)

Guys Hospital London

Nasal packs are commonly used in the treatment of epistaxis. We report a patient with near-complete nasal vestibular stenosis caused by traumatic nasal packing by Rapid Rhino for acute epistaxis in the casualty clinic. This is the first reported case of such complication after nasal packing in literature.

Case Report:

A 65-year-old male was referred to our ENT clinic with persistent right-sided nasal obstruction which caused him difficulty in sleeping. He had an episode of severe right-sided epistaxis 8 months earlier, for which he was hospitalized in another institution for one week. He received multiple nasal packing bilaterally with Rapid Rhino while in hospital, and complained of severe pain and pressured sensation during the procedure. His bleeding was controlled. He had no history of nasal problem before this episode of epistaxis. His nasal obstruction showed no response to topical sprays or decongestants.

Examination revealed complete stenosis of the right nasal vestibule, with a pinhole aperture. The appearance of nasal stenosis is consistent with the severe trauma and scarring following repeated nasal packing. Patient then required surgical intervention to correct the nasal vestibular stenosis.

This iatrogenic injury is potentially avoidable with adequate training and increased awareness of the risks involved in nasal packing. Knowledge, clinical judgment and communication skills are all essentials in achieving good clinical outcomes.

Keywords // nasal vestibular stenosis, nasal packing, nasal injury

PR102 // RHINOLOGY // Rhinology Anterior skull base

Intranasal meningoencephalocele: a case report

Chaidas Konstantinos, Chaidas Konstantinos, Kaisas Christos, Grigoropoulos Ilias, Zacharioudaki Evaggelia, Popoulakos Sotirios, Felekitis Dimitrios. (Greece)

General Hospital of Athens “G. Gennimatas”

Intranasal meningoencephaloceles are uncommon lesions with a herniation of the adjacent meningeal and brain substances through a possible skull base defect, mainly of congenital, traumatic or spontaneous origin. Some meningoencephaloceles concern anterior cranial fossa and they are observed as hernias in nasal cavity or in parasellar sinus. The management of intranasal meningoencephalocele has been historically a rare problem managed by the neurosurgeons, although their clinical manifestations are rhinological. Nevertheless, the last year advances in endoscopic sinus surgery (FESS) developed new approaches in treatment of these lesions and patient’s morbidity is significantly diminished. We report a case with an isolated transthetmoidal meningoencephalocele, referred to us misdiagnosed as an ethmoidal polyp with expansion to the ethmoidal roof. A transnasal endoscopic resection of meningoencephalocele with endoscopic skull base defect reconstruction was successfully performed. Intranasal meningoencephaloceles are often misdiagnosed as nasal polyps and that could be potentially fatal. This may lead to an inappropriate surgical approach and serious neurological complications. For those reasons, it is important to have an index of suspicion of intranasal meningoencephalocele when examining adult patients with nasal polyps.

Keywords // Meningoencephalocele, intranasal, ethmoidal polyp

PR103 // RHINOLOGY // Rhinology Anterior skull base

Case of brain herniation to the nasal cavity in 23 y/o woman

Olga Romanova, Jean-Rene Millet, J.M. Derlon, J.Selskaya (Russia (Russian Federation))

European Medical Center

CC: A 23 y/o woman came to the clinic with complain of watery nasal discharge for 4 month

HPI: watery nasal discharge from only right side, mostly at night as a wet spot in the pillow. Besides, she started suffering from pollenosis 6 months ago with elevated IgE for birch.

PMH: Neurofibromatosis with Cerебella Astrocytoma, neurosurgical removal of tumor at 13 y/o. She felt well until now.

On exam:

Nose: polypoid mass in upper part of the right side of the nose covering middle turbinate. No discharge. Nasal breath is not compromised.

Picture 1 (endoscopic exam)

On CT scan: bone destruction of the lateral lamella of cribiform plate with frontal brain tissue prolapse to the nasal cavity. Significant hydrocealus with block ii Sylvi aquaduct due to previous surgery on cerebellum 10 years ago.

Picture 2- a (CT coronal), 2-b (CT sagital), 2-fl. (MRI coronal)

The patient was consulted with neurosurgeon and treatment was recommended.

Treatment: 1. Injection for Pneumococcos, Meningococcus.

2. Surgery: ventricular shunting to decrease the intracranial pressure

3. Observation period for 3-6 month.

Keywords // brain hernia, anterior skull base, nasal polyp

PR104 // RHINOLOGY // Rhinology Anterior skull base

Dental Implant Displaced into the Maxillary Sinus - Surgical Removal by Endoscopic Sinus Surgery

Ivo Miguel Moura, Inês Palma Delgado; Marta Cardoso; Joao Pedro Leandro; Rui Patarelo; Gabao Veiga (Portugal)

Hospital Professor Dr. Fernando Fonseca, EPE - Portugal

The use of dental implantology and its complications have increased in last years. This is a relative safe procedure when performed by experienced professionals and under ideal conditions, but the placement of implants in molar positions presents diagnostic and surgical challenges. The dental implant displacement is a rare complication, but if there is a lack of bone support, the implant can migrate into the maxillary sinus causing chronic maxillary sinusitis.

The authors report a case of displaced dental implant in the maxillary sinus that was removed by endoscopic sinus surgery, avoiding a more agressive Caldwell-Luc procedure.

Keywords // Dental; Implant; Displaced; Maxillary; Sinus; Endoscopic; Sinus; Surgery

PR105 // RHINOLOGY // Rhinology Anterior skull base
COMBINED ENDOSCOPIC ENDONASAL/ SUBFRONTAL EXTRADURAL APPROACH FOR A GIGANTIC SPHENO-ETHMOIDAL PRIMARY INTRAOSSEOUS MENINGIOMA. TECHNICAL CASE REPORT.

The authors would like to present the case of a 21 years old man, known with a naso-fronto-ethmoido-sphenoidal tumoral mass with right orbital extension, invasion of cribiform plate and anterior cerebral fossa up to posterior clinoid process. The patient had for 10 years right exophthalmia and had multiple surgical interventions through external neurosurgical approach (right parietal, right transfacial), having the preliminary histopathology result osteoblastoma. In collaboration with the neurosurgeon it was decided to practice a combined approach **endo** endoscopic transnasal for the intranasal piece of tumoral mass and anterior subfrontal approach through craniotomy and a frontal bone flap for the anterior cerebral fossa. We excised the entire tumoral mass, which had semisolid, spongy consistence, with calcified areas, hard to palpation. At the end of the intervention the naso-sinusal cavity that had remained after the tumoral mass ablation was separated by the anterior cerebral fossa with a bone graft removed from the iliac crest by the orthopedic surgeon. The endoscopic and the imagistic CT scan check postoperative and after 7 months have confirmed the total ablation of the tumoral mass. The histopathology result was calcified meningioma. The specific of the case: the resolution of a border pathology by a combined surgical team: ENT surgeon, neurosurgeon and orthopedic surgeon.

Keywords // MENINGIOMA, COMBINED APPROACH

PR106 // RHINOLOGY // Rhinology Anterior skull base ETHMOIDAL ENCEPHALOCELE WITH CSF LEAK PRESENTED AT A 3 MONTHS OLD BABY **4TH** SURGICAL SOLUTION: ENDOSCOPIC TRANNASAL APPROACH. TECHNICAL CASE REPORT.

The authors present the case of a 3 months old patient, admitted for nasal cerebrospinal fluid leak, fever and signs of meningeal irritation. The general condition of the patient didn’t allow the subfrontal external approach through a craniotomy and it was compelled to do a minimally invasive surgery with the purpose to close the dural breach and the CSF leak in the ethmoidal roof, followed by a second surgical intervention of the neurosurgeon in order to solve the case. During the surgery, it has been noticed that the lesion can be solved entirely by using the transnasal endoscopic approach and it was practiced the excision of the ethmoidal encephalocele with the closure of the dural breach with the adipose tissue collected from the abdominal area and a pediculate flap from the middle turbinate. Due to her immediately favorable recovery, the patient was released 10 days after the surgery.

Keywords // ETHMOIDAL ENCEPHALOCELE, NASAL CSF LEAK, TRANNASAL ENDOSCOPY

PR107 // RHINOLOGY // Rhinology Anterior skull base Schwannoma of the infra temporal fossa: a transnasal endoscopic excision

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Guy’s & St Thomas Hospital

Trigeminal schwannomas located purely in the infratemporal fossa are extremely rare. We present a 58 yr old female who presented with right sided facial numbness over V2, nasal obstruction and deep seated pain. Imaging and examination revealed an anterior skull base mass, anteriorly involving the maxillary antrum, the posterior ethmoid and sphenoid sinuses, posteriorly eroding the anterior wall of the middle cranial fossa, laterally through the pterygomaxillary fissure into the retro maxillary fat, and superiorly eroding the orbito apex.

Previously such extensive tumours have been excised via a lateral approach, be this combined trans-temporal, trans-zygomatic or trans-cervical, or an anterior approach via Caudwell Luc or Weber Fergusson approach. We describe here our experience and the successful complete endoscopic resection via a trans nasal trans ptterygoid approach. Our complete resection of this tumour without the need for external incisions and the associated morbidity of facial nerve mobilisation, mastoidectomy, zygomatic osteotomies, disruption of the parapharyngeal space resulted in an rapid recovery and early discharge for the patient. We feel that this case highlights important principles and techniques. The boundaries of endoscopic sinus surgery are being continuously challenged, proving that anterior skull base lesions with extensions lateral to the mid pterygoid line are possible, and improve patient outcomes.

Keywords // Ethmoidal, Transnasal, Skull Base


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Fungal Rhinosinusitis are becoming more frequent. Invasive Fungal Rhinosinusitis (IFRS) is a nosological identity which occurs more frequently with immunocompromised patients. Invasive fungal rhinosinusitisÀ’s most common agent is still Aspergillus, in comparison species of Candida are only present in 1-2% of the cases. Even rarer, are IFRS caused by non-candida albicans. We report the first documented case of acute IFRS, caused by Candida kefyr.

Keywords // Cases, Candida kefyr, Acute Invasive Fungal Rhinosinusitis, contact endoscopic

PR109 // RHINOLOGY // Rhinology Anterior skull base EPISTAXIS AND MULTIPLE MYELOMA: CASE REPORT

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OBJECTIVE: The aim of this poster is to report that in the presence of episodic self-limiting epistaxis, an underlying serious oncological situation may be associated.

METHODS: A 57-year old female patient presented in the Otorhinolaryngology Emergency Department with epistaxis, holocranial headaches and left retro-orbital burning sensation. In 2009 she had been diagnosed with multiple myeloma with multiple osteolytic lesions of the lumbar vertebrae, iliac wings and ribs, and was being followed in routine haematological consult apparently stable.

RESULTS: On observation, she had a left eye ptosis, diplopia and visual field limitation present only on eye elevation. Anterior rhinoscopy and nasofibroendoscopy revealed bilateral dry blood clots, absent active bleeding and a whitish mass between the inferior turbinate and nasal septum in the left nasal fossa.

Computer tomography and magnetic resonance imaging revealed an expansive osteolytic lesion of soft tissue density arising from the sphenoidal body invading the nasopharynx, sella turcica, left cavernous sinus, skull base and optic canal with leptomeningeal dissemination. Analytic, imaging and histological results were compatible with the diagnosis of a multiple myeloma lesion.

CONCLUSION: Epistaxis in a patient with a chronic haema-oncologic disorder should always prompt a thorough investigation, where one should always suspect and exclude secondary oncological involvement of the peri-nasal spaces.

Keywords // Epistaxis, Plasmacytoma, Multiple Myeloma

PR11 // RHINOLOGY // Rhinology Anterior skull base Philosophy of Septal Surgery in Adult

Prof. Dr. Nedim Pipic, (Austria)
Prof. Dr. Nedim Pipic, Private Praxis

Full understanding of the complex structural and functional relationship between the nasal septum, lateral walls of the nasal cavity and the nasal
pyramid is necessary to develop a proper surgical plan for each individual patient.

Keywords // Totally Septal Reconstruction

PR110 // RHINOLOGY // Rhinology Anterior skull base
Sphenoid-ethmoidal sinusitis and sialadenitis due to hyper-IgG4 disease
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Introduction
Hyper-IgG4 disease is an auto-immune disorder with multi-system manifestations including sclerosing lesions of the salivary glands, familiar to some as K¨ttner's tumour or Mikulicz's disease. Involvement of the nasal cavity and paranasal sinuses is extremely rare and its involvement of the ethmoid and sphenoid sinuses has never previously been reported.

Case Report
A 57 year old male presented with a 1 year history of bilateral submandibular swelling, cervical lymphadenitis and chronic rhinosinusitis. Nasendoscopic examination was remarkably normal despite CT findings of bilateral opacification of the ethmoid, frontal and sphenoid sinuses. Histological staining of ethmoid tissue revealed an IgG4/IgG ratio of approximately 1, confirming a diagnosis of hyper-IgG4 disease. During his management he also developed cholestasis and hepatomegaly. Oral steroid treatment prompted a marked improvement in all symptoms.

Discussion
This novel diagnosis presented with relatively common CT findings. Previously reported cases of benign fibro-inflammatory lesions of the head and neck may well be due to this pathology. Hyper-IgG4 sinus disease may more common than currently appreciated and evidence of multi-organ involvement should raise suspicion.

Conclusion
This case aims to raise awareness of the possibility of Hyper-IgG4 disease occurring in the nasal cavity and that it is a differential for any non-malignant nasal tumour.

Keywords // HyperIgG4 disease, Benign nasal tumours, Chronic rhinosinusitis

PR111 // RHINOLOGY // Rhinology Anterior skull base
Endoscopic Drainage of Fronto-ethmoidal Mucocoele
Hiba Al-reefy, Karan Kapoor, David Roberts, Claire Hopkins (United Kingdom)
Guys Hospital

Mucocoeles are mucus-filled cavities lined by respiratory epithelium. Symptoms arise from bone expansion, remodelling and soft tissues compression. It is uncommon in paediatrics and may occur following a history of trauma or previous surgery.

There are few reports in the Literature on endoscopic drainage of paediatric mucocoele all performed as an inpatient procedure.

We report this interesting case of an 8-year-old girl presented with headache, proptosis and double vision.

She was referred to our ENT department. CT scans and MRI of the nose and paranasal sinuses revealed a large frontoethmoidal mucocoele.

She underwent an endoscopic drainage of the mucocoele as a day case procedure. No complication or recurrence was found on subsequent follow-ups.

Conclusion: Endoscopic drainage can be an effective way to treat children with frontoethmoidal mucocoele, and with good outcome both functionally and cosmetically.

Pre and post operative images will be presented at the meeting.

Keywords // Endoscopic drainage, frontal mucocoele, ethmoidal mucocoele

PR12 // RHINOLOGY // Rhinology Anterior skull base

POSSIBILITIES OF TREATMENT OF POLYPOUS RHINOSINUSITIS
Vishniakov V., (Russia)
Moscow State University Medicine and Dentistry

Aim:Object of the present investigation is study of influence of intranasal corticosteroids on prevention of polypous rhinosinusitis relapse after surgical treatment.

Materials and methods: Under investigation there were 80 patients with polypous rhinosinusitis who were divided into 2 equal groups. All the patients had gone through endoscopic polynsinosotomy according to standard methodology.

Results:Results of objective observation show that minimal invasive character of endoscopic surgery in combination with proceeded prolonged treatment intranasal corticosteroids for the period of 6 months make it possible to achieve disease remission at 80% of patients who suffer from polypous rhinosinusitis. Only surgery itself without supplementary prescription of topical corticosteroids gives disease remission only in 35% of patients; but 65% of patients were characterized by relapse of polypous process that could be treated only by means of new surgery.

Conclusions:Therefore, neither the most thoughly done operation with the use of modern instruments, technique and methodologies, nor prolonged corticosteroid therapy cannot cure completely polypous rhinosinusitis. To conclude we are apt to say that prolonged medicated therapy of polypous rhinosinusitis with intranasal corticosteroids is considered to be scientifically bound and necessary because it improves the patients quality of life making possible either to avoid repetition of surgery or to get prolonged remission of disease.

Keywords // polypous rhinosinusitis

PR13 // RHINOLOGY // Rhinology Anterior skull base
A Pilot, Open-label Study to Assess the Safety and Performance of a Maxillary Sinus Ostium Self-Dilation Device
Amin R. Javer, Iain F. Hathorn, Al-Rahim R. Habib, Rachelle C. Dar Santos, Eng Cern Gan (Canada)
St. Paul's Hospital Sinus Centre

Introduction: The maxillary sinus ostium (MSO) is commonly obstructed in Chronic Rhinosinusitis (CRS) patients and surgery may be required to reestablish drainage. Recently, a novel osmotic self-dilating expansion device has been developed to expand sinonasal ostia without surgical resection.

Objective: To conduct a pilot study to determine the safety and feasibility of a MSO self-dilating expansion device in human subjects.

Methods: Primary CRS patients presenting with chronic maxillary sinus inflammation requiring FESS were enrolled. Each MSO was evaluated prior to surgery to determine suitability of placement. The device was inserted at the start of surgery and removed after 60 minutes. Endoscopic evaluation for patency was performed immediately after removal, at 6 days, 1 month, and 3 months postoperatively. Adverse events were recorded.

Results: Eleven patients (n=18 MSO) were treated in this series. 16 (89%) devices remained inserted for 60 minutes and achieved a mean dilation to 4.8 ± 0.5mm. Light bleeding during placement was reported in 12 (67%) cases. No adverse events occurred during insertion, removal or postoperatively. Presently, 12 MSO have been evaluated 3 months post insertion of which 11 (92%) have been confirmed patent. One (8%) MSO could not be confirmed patent as sufficient visualization was not achievable.

Conclusion: Placement of a novel osmotic self-dilating expansion device in human MSO is safe and achievable.

Keywords // Sinusitis, Balloon, Dilation

PR14 // RHINOLOGY // Rhinology Anterior skull base
Results of a double-blind placebo-controlled trial on low dose (100mg) aspirin desensitization: Positive influence on nasal polyp relapse rates.
Background: Nasal polyposis frequently occurs within the clinical picture of aspirin exacerbated respiratory disease (AERD).

Besides sinus surgery, aspirin desensitization is the only causative therapeutic option so far. The best suitable maintenance dose of aspirin to prevent nasal polyp recurrence on the one hand and to minimize aspirin related side effects on the other hand, is still subject to discussion. The present trial investigated the efficacy of an aspirin desensitization protocol with 100mg aspirin daily.

Methods: 70 individuals with AERD were randomly allocated to a prospective double-blind placebo-controlled aspirin desensitization protocol. Nasal polyp relapse after 36 months, patients’ quality of life, and aspirin related side effects were investigated.

Results: After 36 months nasal polyp relapse was less frequent (p=0.0785) in the therapy group, quality of life obviously improved (p=0.0299) and no severe aspirin related side effects were observed.

Conclusion: An aspirin desensitization protocol with a maintenance dose of 100mg daily can positively influence nasal polyp relapse and is safe and suitable to improve the quality of life of individuals with AERD.

Keywords // aspirin exacerbated respiratory disease, nasal polyps, CRS, aspirin, low dose aspirin desensitization, quality of life, nasal polyp relapse

**PR15 // RHINOLOGY // Rhinology Anterior skull base**

**Low-dose macrolides after surgery for chronic rhinosinusitis “+” a double blind, placebo-controlled study**

Boris Haxel, Meike Clemens, Niki Karaïskaki, Uta Dippold, Lisanne Utters, Anne-Katrin Kaiser, Wolf J. Mann (Germany)

Department of Otolaryngology, Head and Neck Surgery, University Medical Center of the Johannes Gutenberg University Mainz, Germany

Introduction: The efficacy of macrolides in chronic rhinosinusitis (CRS) is still under controversial discussion. To date, only two double blind, placebo-controlled studies have been published with differing results. None of these studies investigated the possible benefit of macrolides in the time of post operative care.

Methods: We conducted a double blind, placebo-controlled trial using 250mg erythromycin over a period of 3 months beginning the administration of either verum or placebo two weeks after the surgical intervention for CRS. The concentration of eosinophilic cationic protein (ECP) in nasal secretion was chosen as primary end-point. Additionally, changes in the SNOT-20 score, olfaction, saccharin transit time, nasal endoscopy score and subjective visual analogue scale were evaluated.

Results: 90 patients were screened and 58 patients were included into the study and were randomized. 48 patients completed the study. The results of the safety analysis and the different parameters are presented. Concerning the primary endpoint, no difference was found between the erythromycin and the placebo group. Conclusion: This is a new double blind, randomized, placebo-controlled clinical trial about the efficacy of macrolides in CRS. This is the first study evaluating the effect of erythromycin in the post operative phase after sinus surgery. In general, no recommendation can be given for the medication with erythromycin after sinus surgery.

Keywords // sinus surgery; low-dose antibiotics; erythromycin; ECP

**PR16 // RHINOLOGY // Rhinology Anterior skull base**

**Early surgical intervention versus conventional treatment in Posterior Epistaxis: A Systematic review**

Yogesh Mahalingappa, Muhammad Shakeel, Yakubu Karagama (United Kingdom)

Poole Hospital NHS Trust

Background: Posterior epistaxis is a difficult problem and there is no universally agreed treatment protocol. It is often managed by nasal packing followed by surgical intervention after nasal packing fails. This approach has serious implications for the patient and its cost effectiveness is questionable.

Aim: To compare the effectiveness of early surgical intervention with conservative treatment in posterior epistaxis.

Methods: A systematic review. Potentially eligible articles were identified from the following electronic databases: MEDLINE, EMBASE, and The Cochrane Library including the Cochrane Central Register of Controlled Trials, DARE. Data were extracted from the eligible studies according to a protocol developed for the purpose this study.

Results: Two prospective RCTs and four retrospective reviews were included. Both RCT have reported reduced re-bleed rates in early surgical treatment compared to the conservative management. These differences were not statistically significant. However, there was statistically significant reduction in hospital stay and cost in both RCTs with early surgical intervention. The findings from RCTS were supported by all retrospective reviews.

Conclusion: Despite limited evidence, this systematic review favours early surgical intervention as opposed to conservative treatment of posterior epistaxis. However, further well-designed multicentre randomised controlled clinical trials are required for a more definitive answer.

Keywords // Epistaxis, Packing, Surgical Intervention, Nasoendoscope

**PR17 // RHINOLOGY // Rhinology Anterior skull base**

**Microdebrider-assisted partial inferior turbinectomy ; Advantages over the conventional method**

Ahmed Hesham, Hatem Badran, Mahmoud Attia, Ahmed Fathi (Egypt)

Magrabi Eye and Ear centre

Objective: To compare the safety and efficacy of microdebrider assisted partial inferior turbinectomy with the conventional surgical turbinectomy in patients with inferior turbinate hypertrophy.

Study design: Prospective randomized trial

Setting: Private Hospital (Saudi German Hospital)

Subjects and Methods: Sixty patients with nasal obstruction and bilateral hypophthiled inferior turbinates that was refractory to medical treatment were included. History taking, clinical assessment and CT scan of the paranasal sinuses were done for all patients. The patients were randomly assigned to receive microdebrider partial turbinectomy (n = 30) or conventional surgical turbinectomy (n = 30).

Main outcome measures: operative time, blood loss, subjective improvement of the patients symptoms and post operative complications

Results: The 2 groups were comparable in age and sex. The operative time and operative blood loss were less in the microdebrider group (P0.05). There was no difference in the incidence of post operative complications between the 2 groups.

Conclusions: Partial turbinectomy with the microdebrider is as effective and safe as the conventional surgical turbinectomy with shorter operative time and minimal blood loss, so we recommend the routine use of microdebriders for all partial turbinectomy procedures

Keywords // endoscopic; Microdebrider; turbinate

**PR18 // RHINOLOGY // Rhinology Anterior skull base**

**Epistaxis: is the initial measurement of haemoglobin level routinely necessary?**

Mamun Rashid, Yogesh Mahalingappa, John Chan (United Kingdom)

ENT Specialty Registrar, South West Peninsula Deanery

Epistaxis is one of the most common reasons for hospital admission. The study aim was to determine the average drop in haemoglobin for patients presenting to a District General Hospital pre- and post- epistaxis and the necessity to measure Hb routinely. All case records of adult hospital admissions for epistaxis in a 6 month period were analysed (ICD-10 code R04.0).

44 patients (M=23, F=21) were included in total. 38 patients were discharged from casualty the same day of admission whilst 6 were admitted as inpatients. The range of drop of Hb was between 0-34 g/l (mean 9 g/L). The mean drop was
Conclusions: Rapid Rhino is less painful, causes less bleeding compared to Merocel nasal pack with no side effects, so its use as a nasal pack after septal surgery is recommended.

Keywords: Rapid Rhino - Merocel - Nasal packs - Septoplasty - Pain

PR21 // RHINOLOGY // Rhinology Anterior skull base
Juvenile Nasopharyngeal Angiofibroma “” a never-ending challenge
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Juvenile nasopharyngeal angiofibromas (JNA) are benign, highly vascular tumors with a high destructive potential of the surrounding areas. They usually appear at the pterygoid process of the sphenoid bone, the pterigo-palatine foramen or the choana. The surgical treatment of JNA can be achieved through an endoscopic approach after selective embolization for tumors that correspond to stages I or II (Fisch staging).

This paper presents the most interesting cases in our clinic’s experience of 14 patients with JNA (which underwent endoscopic surgical treatment). We present one patient with tumoral recurrence after operation in a classic approach with external carotid artery ligation which was a real endoscopic surgery challenge due to the risk of bleeding. Another patient with JNA presented after preoperative embolization two vascular sources from both left and right external carotid arteries. This vascular supply of the tumor lead us to a modified endoscopic surgery technique in order to avoid bleeding and completely remove the angiofibroma.

Our experience in endoscopic approach of JNA let us to believe that this surgical approach is possible in tumors staging I or II Fisch after pre-operative selective embolization of the tumor, and that the only inconvenient is not the size of the tumor per se but its extension in the surrounding areas (frontal sinus, pterigopalatine fossa, infratemporal fossa, cavernous sinus, etc.).

Keywords: juvenile angiofibroma, endoscopic sinus surgery

PR22 // RHINOLOGY // Rhinology Anterior skull base
Blood flow velocity in the middle cerebral artery during transnasal endoscopic skull base surgery performed in controlled hypotension
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Department of Otolaryngology Medical University of Białystok, Poland

Objective: To assess changes of blood flow parameters in the middle cerebral artery (MCA) during endoscopic procedures performed in moderate controlled hypotension with low and stable heart rate. Methods: Blood flow velocity (BFV) in the MCA was measured: before anesthesia (P1 time point), directly next to the induction of anesthesia (P2) and during the surgery when bloodless surgical field was obtained due to reduced blood pressure and heart rate (P3 for studied group of patients undergoing transnasal endoscopic skull base surgery with normotension 30-40 min after onset of surgery (P3 for control group-13 patients operated on spine pathologies). Results: BFV in the MCA remained within the range of age-specific reference values before operation. It decreased significantly in both groups at P2 (p)

Keywords: cerebral blood flow, endoscopic skull base surgery, middle cerebral artery, systemic hypotension, transcranial color Doppler sonography

PR23 // RHINOLOGY // Rhinology Anterior skull base
The presence of certain difficulties in patients with chronic rhinosinusitis
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Introduction: EAACI and ERS define rhinosinusitis as an ailment characterized by the following symptoms: impaired nasal breathing, nasal secretion, pain and/or facial pressure and weakened or lost olfactory function. In order to diagnose chronic rhinosinusitis, it is necessary that a patient has at least two of these symptoms, one of which has to impaired nasal breathing or nasal secretion and or posterior pharyngeal wall secretion.
The objective of this paper is to establish which difficulties appear the most in patients with chronic rhinosinusitis and which particular difficulties they consider the most striking.

The examinees and the method: This research circumscribed 90 examinees, 64 men (71%) and 26 women (29%) diagnosed with chronic rhinosinusitis according to ERS.

Results

Impaired nasal difficulty was found in all 90 examinees (100%), while nasal secretion was found in 50 patients (56%). The pain and or facial pressure was found in 77 patients (86%), while weakened or lost olfactory function was 32 patients (36%). The average value of difficulties - impaired nasal breathing was 3.18 cm, nasal secretion and or posterior pharyngeal wall secretion 2.56 cm, the feeling of pain and or facial pressure 2.20 cm, and the weakened olfactory fuction equalled 0.92 cm.

Conclusion:

The most widespread difficulty in rhinosinustic in patients with chronic rhinosinusitis was impaired breathing difficulty, and the rarest one was impaired or lost olfactory function.

Keywords: rhinosinusitis, VAS, nasal obstruction

**PR24 // RHINOLOGY // Rhinology Anterior skull base**

**Gunshot bullet in the base of the pterygoid processes of the sphenoid: a case report and revision of the literature.**

S. Garofolo, R. Mora, G. Lane, A. Barbieri (Italy)

ENT Dept. University of Genoa, Italy

(RESIDENT CASE REPORT)

Gunshot accidents limited to sphenoid sinus and pterygoideus processes are rare. Removing a bullet from this region is challenging because of the difficult access and proximity to delicate structures. We present a rare condition of injury to the base of the pterygoid processes by a bullet.

Patient underwent surgery with endonasal endoscopic approach. The internal maxillary artery was identified and ligated with a hemoclip. For exposure to the lateral wall of the sphenoid sinus, the pterygopalatine contents were retracted laterally and bony dissection was continued posteriorly. Drilling was confined to the inferior portion of the medial pterygoid plate to identify and preserve the vidian nerve anteriorly and to identify and remove the bullet posteriorly.

The bullet about 12 mm of lenght was found and successfully removed without short or long term sequelae.

In the paranasal sinuses a bullet may cause several complications such as chronic sinusitis, osteomyelitis, cutaneous fistula, rhinolith formation and meningitis. Even when the bullet doesn’t cause infection, leaving in the sinus can cause chronic irritation of the mucosa, irreversible alterations and resulting in additional complications. The surgical method used to reach the foreign body may cause secondary damage to vital structure of the head. Our experience highlights as the endonasal endoscopic approach is the safest, minimally invasive and therefore the most preferred management.

Keywords: endonasal endoscopic approach, gunshot bullet, pterygoid processes.

**PR25 // RHINOLOGY // Allergy**

**LEUKOTRIENE ANTAGONISTS IN ALLERGIC RHINOSINUSITIS: AN EVIDENCE BASED REVIEW**

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Department of Otorhinolaryngology, Hospital García De Orta

OBJECTIVE: Review the scientific evidence of the efficacy of leukotriene antagonists in allergic rhinosinusitis (RS), more specifically montelukast.

METHODS: We searched for articles published in the last ten years on PubMed. We included only double-blinded, randomized controlled trials and excluded articles with non-clinical objectives or objectives that did not evaluate the impact in allergic RS.

RESULTS: We reviewed 23 articles, the main endpoints analysed for allergic rhinosinusitis were nasal symptoms and impact on quality of life (QoL). In monotherapy, montelukast (MLT) compared to placebo was more efficacious in the reduction of nasal symptoms and improving QoL. When compared to intranasal corticosteroid, MLT did not show benefit or equivalency, however when compared against oral antihistamines, MLT was equivalent. In combined therapy, we found no benefit in the addition of MLT to intranasal corticosteroid, but some benefit in the association to oral antihistamines. MLT associated with oral antihistamines was equivalent to intranasal corticosteroids in reducing nasal symptoms and improvement in QoL.

CONCLUSION: According to the articles analysed, we conclude that in allergic RS, MLT decreases most nasal symptoms and improves QoL in monotherapy or in association with oral anti-histamines. We thus emphasize the importance of this novel application for MLT, which increases the options of available therapeutic medication in the battle against RS in otorhinolaryngology.

Keywords: Leukotriene Antagonist, Montelukast, Allergic Rhinitis, Allergic Rhinosinusitis, Review

**PR26 / RHINOLOGY // Rhinology Anterior skull base**

**Ethmoid drug-eluting catheter for nasosinusual polyposis: A prospective randomized controlled study assessing safety and efficacy**

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Hospital Universitario de Fuenlabrada

Objective: Chronic rhinosinusitis with polyposis (CRSwP) is currently treated by endoscopic sinus surgery (ESS). The study objective was to assess the safety and efficacy of a drug-eluting catheter to be inserted into the ethmoid sinuses during ESS to elute triamcinolone in patients with CRSwP.

Study Design: Prospective, randomized, controlled, double-blind, clinical trial using intrapatient control design.

Setting: Otolaryngology “head and neck surgery Academic Department.

Subjects and Methods. The study enrolled 40 patients with CRSwP undergoing ESS. In every case, after polyectomy was done to expose the ethmoid bulla, a drug-eluting catheter to elute triamcinolone (0,3 ml) was randomly applied to one nasal fossa, whereas the other was treated by conventional total ethmoidectomy. Outcome measures were visual analogue scales, RSDI, endoscopy, and oSeptometry at baseline, three months and six months, and CT imaging at 12 months.

Results: After randomization was performed, unilateral devices were successfully placed in all patients, and also easily removed after four weeks. When comparing both nasal fossae in postop endoscopies, the prevalence of edema, adhesions and recurrent polyposis were statistically similar. CT images showed statistically similar improvement in Lund-Mackay scores between both fossae. No side effects were reported.

Conclusion: This trial provides clinical evidence on the safety and efficacy of a drug-eluting catheter for use in patients with CRSwP.

Keywords: corticosteroid, sinuzzi, polyposis, inflammation, endoscopic sinus surgery (ESS), drug releasing, implant

**PR27 / RHINOLOGY // Rhinology Anterior skull base**

**Extravodal T Cell NonHodgkin Lymphoma “2Milidane Lethal Granuloma” Case report**

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Extravodal T Cell Nonhodgkin Lymphoma “2Milidane Lethal Granuloma” is rare. We present a female patient which addressed to the ENT Department Timisoara with nasal, paranasal sinuses and rhinopharynx pathology: destruction of nasal septum (cartilaginous and osseous part), partial destruction of the lateral walls of the nasal cavities, rhinopharynx and nasal cavities excessive crutches, bridging of the nose, with midfacial skin celsian signs (redness, dolor, calor and tumor).

Keywords: T Cell NonHodgkin Lymphoma, Milidane Lethal Granuloma, septal destruction, excessive crutches

**PR28 / RHINOLOGY // Rhinology Anterior skull base**

**COMPARISON OF THE EFFECT OF TREATMENT OF THE NASAL POLYPYSIS WITH FLUORINATED AND NON FLUORINATED CORTICOSTEROIDS**

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Definition, etiology and pathophysiology of nasal polyposis are still a matter of controversy. Corticosteroids applied topically and/or systemically are the first
choice of therapy of nasal polyps although type, dose and duration of their use is not clearly defined. The prospective randomized study included sixty patients (pts) who were randomly divided into two different groups. The first group of pts was prescribed combined systemic and topical fluorinated corticosteroid therapy (NFC'). The second group was administered non fluorinated corticosteroid therapy (NFCT). In all pts the treatment was done after the date assessment of general and rinologic state of the pts, using objective methods of clinical and endoscopic examination of the nose, as well as subjective VAS method, scented pencils and quality of life SNOT 22 score. After one, three, six, nine and twelve months of the applied therapy, an assessment of general and rinologic state of the pts was repeated. Application of these two therapeutic protocols (whether FC or NFC) in pts with nasal polyposis, show statistically highly significant results in improvement of subjective symptoms and clinical findings. However, the use of NFC compared to FCT requires 13.34% repeated therapies and 10% larger number of patients, who are dissatisfied with the outcome of therapy. The use of FCT compared to NFC showed more efficient and longer therapeutic effect

Keywords:// NASAL POLYSIS, FLUORINATED CORTICOSTEROIDS, NON FLUORINATED CORTICOSTEROIDS

PR29 // RHINOLOGY // Rhinology Anterior skull base
VALIDATION OF THE SINONASAL OUTCOME TEST-23 IN SEPTORHINPLASTY: A PILOT STUDY
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Introduction: The Sinonasal outcome test-22 (SNOT-22) questionnaire is validated as a tool for assessing impact upon quality of life and surgical outcomes in chronic rhinosinusitis. SNOT-22 is a modification of SNOT-22 with a question about the shape of the nose as there is a need to have a universal tool for assessing all rhinology patients. We assessed its validity in patients undergoing SRP. Method: Prospective pilot study where patients completed the SNOT-23 pre-operatively and at three months post operative. Scores were compared with visual analogue scores of nasal symptoms and a control group. Results: 26 patients completed the SNOT-23. Scores significantly improved after surgery, namely, anosmia and unilateral nasal obstruction when compared using the paired Wilcoxon test (P<0.0026). Correlation of the question relating to the shape of the nose was high when compared to the same symptom on the visual analogue scale (Spearman r = 0.76). Pre-operative scores were compared to a control group of 10 healthy individuals who had significantly lower scores when analysed using the unpaired U Mann Whitney test (P=0.0004). Discussion: The SNOT-23 demonstrated reduced quality of life in pre-operative SRP patients, and a significant reduction in overall scores after surgery. From this pilot study the SNOT-23 appears to be a reliable and easy to use tool to assess response of symptoms to surgical intervention. More data is required to further validate this new tool for assessing patient&rsquo;s response to surgical intervention.</p>

Keywords: // Septorhinoplasty, Sinonasal Outcome

PR30 // RHINOLOGY // Rhinology Anterior skull base
Endonasal endoscopic approach to the orbit (EEAO)
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Objectives: Describe endoscopic anatomy of medial & inferior orbital walls & present 5 illustrative clinical cases. Methods: 2 vessel-injected cadavers (4 sides) underwent endonasal transethmoid-phenoid-maxillary approach. Results: Total ethmoidectomy & maxillary antrostomy are performed. Maxillary sinus roof is removed until infraorbital canal laterally. Laminar papyracea is removed. Transnasal & transethmoid sphenoidotomy are made. Periorbita is incised along medial & inferior orbital walls. Cavernoal carotid is exposed & medialized to show oculomotor (III), trochlear (IV), ophthalmic (V1), maxillary (V2) & abducent (VI) nerves in cavernous sinus. In superolateral wall of sphenoid sinus, optocarotid recess is visualized with optic nerve (ON) & ophthalmic artery (OA). Anteriorly, annulus tendineus of Zinn (ATZ) is incised, showing insertion of superior, medial & inferior rectus muscles with nerve III & its branches. ON, nasociliary branch of V1, VI & OA also enter ATZ. Superior & inferior oblique muscles are outside ATZ. Anterior limit is eye globe. 5 clinical cases of EEAO will be presented. Discussion: EEAO is ideal for inferior & medial lesions of orbit. Contrary to craniotomies, EEAO exposes ON without removing orbital roof & anterior clinoid. Contrary to orbitotomies, EEAO provides excellent visualization with angled endoscopes. Limits are lesions of superior or lateral part of orbit or lesions that need manipulation of ON or section of medial rectus muscle.

Keywords: // orbit, endoscopic endonasal, periorbita, carotid

PR33 // RHINOLOGY // Rhinology Anterior skull base
Type 2 diabetes mellitus is associated with olfactory dysfunction
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Aim: To examine whether olfaction is impaired among subjects with type 2 diabetes mellitus (T2DM) in an adult Greek population.

Materials and methods: A total of 154 adults (74 men, 80 women) without a history of olfactory dysfunction were examined by sniffing sticks in terms of threshold (1-16), discrimination (0-16), identification (0-16) and a total (TDI) score ranging from (1-48), T2DM was present in 119 subjects. Results: There was no difference in olfactory scores between the two genders. T2DM patients had lower threshold (6.51±2.52 vs. 8.69±2.92, p

Keywords: // diabetes; olfaction; threshold; discrimination; identification

PR34 // RHINOLOGY // Rhinology Anterior skull base
Nasal polyposis: what are patients' complaints before and after surgery?
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CHU de Nancy

Background: Nasal polyposis (NP) is a chronic sinonasal disease which impacts on the quality of life (QoL). The aims of this study were: 1) to describe the symptoms of patients with NP together with both their physical and psychosocial impacts; 2) to assess the QoL outcomes after the surgical treatment of NP.

Methods: Eighty-one NP-patients who were candidate for surgery were included in this prospective study. Patients were evaluated for sinusonal symptoms as well as physical and psychosocial impacts of each symptom by the DyNaChron QoL questionnaire. Each item ranges from 0 meaning no discomfort to 10 meaning unbearable discomfort. Assessments were performed 1 day prior to surgery and 6 weeks and 7 months after surgery.

Results: Before surgery, the sense of smell disorder was the most frequent complaint with the highest score (7.72), followed by nasal obstruction (6.81), posterior discharge (5.24), anterior rhinorrhea (4.83), pain (3.95) and cough (3.25). The olfactory disorder was associated to a high physical impact score whereas the nasal obstruction and anterior rhinorrhea caused a high psychosocial impact score. Statistically significant improvements at 6 weeks and 7 months after surgery were found for all symptoms as well as for physical and psychosocial scores in comparison to pre-operative scores (p

Keywords: // Quality of Life, Nasal polyposis, DyNaChron questionnaire

PR35 // RHINOLOGY // Rhinology Anterior skull base
Unique Rhinopharyngeal Plasmocytoma
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Institute of Phonoaudiology and Functional ENT Surgery "Prof. Dr. Dorin Hociota”.
The extrameral plasmacytoma arises from the plasma cells located in the mucosal surfaces. It represents 3% of all plasma cell neoplasms and presents itself as a growing mass in the aerodigestive tract.

The aim: An overview of the literature concerning extrameral plasmacytoma according to a clinical case report.

Method: Clinical case report of a 42 year-old male with rhinopharyngeal plasmacytoma. Video and photo documentation, imagistic and endoscopic evidence are presented.

Conclusions: The case report points out the signification of a un-ordinary case of unique rhinopharyngeal plasmacytoma. There are underlined some of the possible diagnostic and therapeutic errors and the correct management of the case is presented. A hemorrhagic complication that occurred during surgery is also reported.

Keywords: // extrameral plasmocytoma, rhinopharyngeal plasmacytoma, multiple myeloma

PR36 // RHINOLOGY // Rhinology Anterior skull base
Improved visualisation of blood while wearing KTP laser protective eyewear using digital manipulation of endoscopic images
Matthew Ellis, Neil Foden (United Kingdom)
John Radcliffe Hospital, Oxford

Background: The potassium-titanyl-phosphate (KTP) laser is commonly used to photocoagulate blood vessels during endoscopic procedures. Green light makes it more difficult to visualise blood and without vascularule.

Objectives: To improve the ability to visualise blood on endoscopic images while wearing KTP laser protective eyewear and design a digital filter to create images that show the red edge of the visible spectrum.

Simulation 1: Red/pink differentiation was assessed using modified Ishihara plates while wearing KTP protective eyewear with and without the filter applied. Simulation 2: The ability to identify blood on endoscopic images while wearing KTP protective eyewear was assessed with and without the filter applied. Main outcome measures: Speed and accuracy of responses were compared. Accuracy in simulation 2 was defined as >80% distance of each data point from a median centroid. Setting: Seventeen specialist surgeons in otolaryngology completed each of the simulations and gave a subjective opinion. Results: Simulation 1: >80% differentiation was significantly more accurate (p<0.001) and >80% responses were given more promptly (p<0.001) with the filter applied. Simulation 2: Responses were more accurate with the filter applied and response times were quicker (p=0.004). Subjectively each >80% image was rated as significantly better or somewhat better with the filter applied for a median of 16 subjects. Conclusion: The digital filter is an inexpensive and simple technique which improves the ability of endoscopic surgeons to visually differentiate blood.

PR37 // RHINOLOGY // Rhinology Anterior skull base
Ewing Reticulosarcoma with ethmoidal origin
Hainarosie Razvan, Ionita Irina-Gabriela, Zainea Viorel (Romania)
Institute of Phonaudiology and Functional ENT Surgery "Prof. Dr. Dorin Hociota".

Abstract
Ewing’s sarcoma is a malignant neoplasm consisting of small round cells and is frequently found in the long bones of the limbs or the pelvis, only 2-3% are found in the head and neck area. It is part of a group of tumors called “small round cell tumors of childhood”.
The aim: An overview of the literature concerning Ewing reticulosarcoma according to a clinical case report.
Method: Clinical case report of a 57-year-old male with Ewing sarcoma of ethmoidal origin, with video and photo documentation, imagistic and endoscopic evidence.
Conclusions: The case report points out the signification of a un-ordinary case of Ewing sarcoma of ethmoidal origin. There are underlined some of the possible diagnostic and therapeutic errors and the correct management of the case is presented.

PR38 // RHINOLOGY // Rhinology Anterior skull base
Impact of nasal septum deviation on the visibility of endoscopic pituitary surgery
Erika Gomes, Jackson Gondim, Camilo DiÁgenes, Paulo César Almeida, Alberto Oliveira, Luis Ubirajara Sennes (Brazil)
General Hospital Fortaleza (HGF)

Objective: To evaluate the impact of nasal septum deviation on the visibility of pituitary endoscopic surgery in terms of the deviation location, width of the surgical corridor, and the presence of dental implants.

Means and Methods: Sectional study in a tertiary with thirty-eight patients who underwent pituitary endoscopic surgery using the "two nostrils - four hands" technique were submitted to the intraoperative registration of anatomical variations, septal deviations, surgical corridor width and location of the deviated septum. Visibility was assessed using an ordinal scale. Correlation between scores was determined using analysis of variance (ANOVA), chi-square and likelihood ratio tests. Results: Seventy-six nasal cavities were studied, and 50 septal deviations were found (65.4%). Among the patients with severe deviation, 72.5% had a surgical corridor width of less than 9 mm (p = 0.001). The width of the nasal cavity at the deviation was also smaller in the middle level (4.81 mm, p = 0.012) compared to the posterior level (6.9 mm, p = 0.005).

Keywords // Pituitary gland/surgery; Endoscopic Surgical Procedures; Nasal septum abnormalities; Nasal cavity, Anatomy.

PR39 // RHINOLOGY // Rhinology Anterior skull base
OCCUPATIONAL HAZARDS IN PATIENTS TREATED FOR EPITHELIAL SINONASAL CANCERS: OUR EXPERIENCE
Mario Turri-Zanoni, Matteo Bonzini, Paolo Battaglia, Luca Volpi, Davide Lepera, Apostolos Karlikiotis, Marco Ferrario, Paolo Castelnuovo (Italy)
Ospedale di Circolo e Fondazione Macchi

Background. Occupational exposure to carcinogens contributes greatly to the etiology of sinonasal cancer (SNC), but the role of other risk factors is disputed. Materials and Methods. Retrospective analysis of patients surgically treated for epithelial SNC through an endoscopic endonasal or cranio-endoscopic approach, and followed between February 2010 and August 2011 by the multidisciplinary postoperative care group of our Institute. All cases enrolled underwent a systematic occupational medicine examination to determine previous exposure to a wide range of work-related chemical hazards. Results. We investigated 65 SNC cases including intestinal-type adenocarcinoma (ITAC), squamous-cell carcinoma (SCC), and others histotypes. Occupational exposure was recognized for 35/65 (53.8%) cases and was sensibly more frequent among ITAC (87%) than among SCC or other histotypes (19%). Occupational exposure in ITAC cases was to leather or wood dust only, while among non-ITAC cases to formaldehyde, solvents and metal fumes. A high proportion of SNC with occupational exposure originated in the ethmoidal epithelium. Conclusion. In our case-series of SNC, a very high frequency of previous occupational exposure to carcinogens was detected, suggesting that occupational hazards may be associated to the aetiopathogenesis, primarily for ITAC, but also for other histotypes. Besides leather or wood, other chemical agents must be recognized as occupational risk factors for this subset of cancers.

Keywords // Sinonasal cancers, case-series study, wood, leather, occupational cancer.

PR40 // RHINOLOGY // Rhinology Anterior skull base
Sinosal foreign body: presentation of three cases.
Rodolfo Nazar, Rodolfo Nazar, Alfredo Naser, Natalia Cabrera, Cecilia Machiavello (Chile)
Universidad de Chile

Sinonasal foreign bodies are rare clinical entities, requiring a high index of suspicion for diagnosis. The diagnosis is based on the radiological findings and the clinical context of a unilateral rhinosinusitis in adults. Its etiology is divided into two groups, odontogenic and non-odontogenic, so with the advent of implantology the odontogenic cases have progressively increased. Their presence in the sinuses can cause several complications, so its removal is always indicated.

We present three clinical cases with different sinonasal foreign bodies. First case, a 67-year-old man presented with bilateral maxillary pain, nasal obstruction and intermittent purulent rhinorrhea for the last three years. He had undergone several surgeries for dental implants. On computed tomography (CT), three dental implants were identified in both maxillary sinuses. Second case, a 60-year-old man presented with recurrent rhinosinusitis for several years. He had undergone nasal surgery due to ostea. On CT, the calcified plastic grafts for ostea surgery were identified. Third case, a 35-year-old man consulted by the finding of a nail in paranasal sinus radiograph associated with purulent rhinorrhea. The three patients were successfully treated with transnasal endoscopic surgery for removal of foreign bodies, in the Clinical Hospital of Universidad de Chile.

Keywords // Foreign body, Sinonasal, Dental implants, Rhinosinusitis.

PR41 // RHINOLOGY // Rhinology Anterior skull base

The results The effect and benefit of radiotherapy is commented. The patient with recurrent nasal polyposis follow-up. In this possible chain of possibility of transforming normal respiratory epithelium in nasal polyposis, than concluded.

The method consists in a clinical selected cases. The videcontact endoscopy data, CT scan, histological and IHC exam support the diagnosis and evolution.

The results The effect and benefit of radiotherapy is commented. The appropriate surgical approach is discussed, according characteristics of tumoral lesion. The reconstructive facial surgical procedure after removing a remnant externalized tumor, following previous surgery and irrigation is applied and discussed.

Conclusion point out the idea that during 22 years of evolution a long lasting process of metaplasia of respiratory epithelium took place. This shows the possibility of transforming normal respiratory epithelium in nasal polyposis, than into an inverted papilloma and than into malignant tumor and the importance of patient with recurrent nasal polyposis follow-up. In this possible chain of evolution, how can we identify, from beginning, cases with risk for malignancy?

The method consists in a clinical selected cases. The videcontact endoscopy data, CT scan, histological and IHC exam support the diagnosis and evolution.

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Management: All patients had CT imaging, revealing an opacified hypoplastic maxillary sinus and lateralized uncinate process. All patients were managed with endoscopic uncinctomy, middle meatal antrostomy and septoplasty where necessary.

Conclusion: Silent sinus syndrome is thought to be a rare occurrence, with a previous literature review in 2005 suggesting 83 published cases. However this many represent under diagnosis due to lack of awareness of the pathology. Our series would suggest that the condition is more prevalent that the literature would imply.

Silent sinus syndrome is caused by a spontaneous chronic negative pressure in the maxillary sinus causing collapse of its walls and eventual enopthalmos and hypoglobus secondary to the retraction of the orbital floor and increased orbital volume.

Symptoms such as diplopia and enopthalmos rarely are primarily referred to ENT surgeons. It is important to raise awareness in Primary Care, Ophthalmology and Radiology to consider silent sinus syndrome as a possible differential diagnosis.

Keywords // Silent Sinus Syndrome, Maxillary Sinus, Antrostomy

PR46 // RHINOLOGY // Rhinology Anterior skull base
nasolacrimal duct during endoscopic medial maxillectomy for sinonasal inverted papilloma
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Objective: Sinonasal inverted papillomas (IP) have benign entity but they can be locally aggressive. Endoscopic medial maxillectomy (EMM) enabled improved visualization and thoroughly resection of the tumour intranasally. However, IP at the anterior wall of the maxillary sinus is difficult to manage with EMM because the nasolacrimal duct interfere the visualization and working space during surgery. We have developed a new surgical technique for intranasal resection of IP at the anterior wall of the maxillary sinus.

Methods: Tumours at the anterior wall of the maxillary sinus and the nasolacrimal duct that prevent an internasal approach are treated by separating the bone surrounding the nasolacrimal duct from the entire lacrimal passage. The preserved duct is then swung upwards to the agger nasi to offer a clear surgical view.

Results: There was no difference in lacrimal duct function between the diseased side and healthy side.

Conclusion: This new technique of preservation of the nasolacrimal duct when performing EMM during treatment for IP has several advantages including good visualization, maintenance of nasolacrimal function after surgery.

Keywords // Inverted papilloma, Maxillary Sinus, Nasolacrimal Duct

PR47 // RHINOLOGY // Rhinology Anterior skull base
Aortic aneurysm rupture as a rare complication of Wegener’s granulomatosis.
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Wegener’s granulomatosis (WG) is characterized with a systemic vasculitis of medium-sized and small blood vessels, however, aortic involvement in WG is extremely rare. We describe here a 38-year-old patient with WG accompanied with an aortic aneurysm rupture 20 years after onset. The patient was operated on and a graft was inserted. Postoperatively, he recovered uneventfully. Recommendations and consideration of aortic involvement should be kept in the mind for long term careful follow-up of Wegener’s granulomatosis.

Keywords // Wegener's granulomatosis

PR48 // RHINOLOGY // Rhinology Anterior skull base
Clinical and pathological characteristics of organized hematoma
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Objective: To study the roles of periosis, CD31 and CD34 in pathogenesis of organized hematoma with malignant features in maxillary sinuses. Subjects and Methods: This was a retrospective study of five patients who were treated surgically for masses. Surgical samples were investigated by immunohistochemistry. Results: The clinical features of organized hematoma, such as a mass expanding from the maxillary sinus with bone destruction, resembled those of maxillary carcinoma. However, CT and MRI provided sufficient and useful information to differentiate this condition from malignancy. Surgical resection was straightforward because of the presence of a firm capsule. Characteristic histopathological findings were a mixture of diluted vessels, hemorrhage, fibrin exudation, fibrosis, hyalinization, and neoangiogenesis. The expressions of periosis, CD31 and CD34 were observed in organized hematoma of the maxillary sinus. Conclusion: The expressions of periosis, CD31 and CD34 were observed in organized hematoma of the maxillary sinus. Organized hematoma is characterized pathologically by a mixture of bleeding, diluted vessels, hemorrhage, fibrin exudation, fibrosis, hyalinization, and neoangiogenesis. CT and MRI show heterogeneous findings reflecting a mixture of these pathological entities.

Keywords // hematoma, CD31, CD34, periosis

PR49 // RHINOLOGY // Rhinology Anterior skull base
Chondrosarcoma of the nasal septum
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Alexandria University Hospitals

Chondrosarcoma of the nasal septum is a rare malignancy. When it occurs, early diagnosis is difficult because patients generally present with common, non-specific sinonasal complaints. This is the report of a 62-year-old woman who presented with a 1-month history of nasal obstruction, headache and anosmia. Nasal endoscopy showed a nasal mass obstructing both nasal cavities not separable from the septum. A wedge biopsy of the nasal mass was taken. Histopathology was suggestive of chondrosarcoma. The tumour was removed by an endoscopic approach. The clinical presentation, diagnosis and treatment of this case as well as a review of the literature are discussed.

Keywords // Chondrosarcoma of the nasal septum

PR50 // RHINOLOGY // Rhinology Anterior skull base
Multidisciplinary technology in treatment of nasal liquorrhea
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Urals State Medical Academy

Violation of the integrity of anatomical structures of the skull base, creates the conditions for the outflow of cerebrospinal fluid from the cerebrospinal fluid spaces in the nasal cavity. Nasal liquorrhea can lead to infection of the liquor system. We observed 69 patients with nasal liquorrhea, which were divided into four groups: I group - 15 patients who underwent operation to install a shunt in the cerebrospinal fluid space skull. II group of 15 individuals who were operated with classical intracranial neurosurgical access. III group - 23 patients who were operated with plastic of liquor fistulous with intranasal approach. IV group - 16 people who turn a blind cerebrospinal fluid fistula with combined approach (intracranial and intranasal).

In addition to the general clinical research methods, conducted radiological examination (MRI and CT with 3D and VRT reconstruction), and if it was necessary immunological study was conducted to determine the ß2 transferrin in the discharge from the nose. In the postoperative period for 3 days lumbar drainage was performed with invasive manometry.
In group I relapses in 6 cases. In group II we noted five relapses. In groups III and IV recurrent nasal lorquinea not. All patients were discharged home on the recovery, observation periods ranging from 3 months to 10 years.

Prevention of recurrence of nasal lorquinea was due multidisciplinary approach, to diagnosis and treatment, and adequate postoperative management of patients.

Keywords // nasal lorquinea, multidisciplinary approach, plastic of lower fistulous

**PR51 // RHINOLOGY // Allergy**

Cricothyroidotomy in a Angiotensin-Converting Enzyme (ACE) Inhibitor TongueÂ’s Angioedema

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Purpose: Our objective is to report the significance of angioedema in the upper airways in patients treated with angiotensin converting enzyme inhibitors.

Methods: A 75 years old male was seen in Emergencies. His admission medications during the last 2 years were Varapam/elapril and furosemide because of his hypertension. He hadn’t past medical stories, unknown allergies. During first hours, developed a tongue edema which was increasing and didn’t response to any treatment with intravenous corticosteroid and antihistamine. Evolved rapidly to respiratory arrest and he was underwent to an emergency thrombolytic therapy. The incidence is common in the first week of treatment.

Summary: The hereditary angioedema by ACE inhibitors is an unusual disorder (0.1 to 2.2%). The incidence is common in the first week of treatment. Frequently, the cases are secondary to treatment with enalapril, lisinopril, benazepril, there being few published cases with trandolapril. Diagnosis is based on the relationship of angioedema with a history of hypertension treated with ACE inhibitors. The first step of treatment, drug withdrawal and angioedema disappears.

Conclusion: A third of patients with ACE inhibitors angioedema need admission to intensive care unit, and seldom have a such airway reduction they need a surgical procedure.

Once the medication discontinued, there is a low risk of developing a new episode of angioedema.

Keywords // cricothyroidotomy, angiotensin-converting enzyme inhibitor, angioedema

**PR52 // RHINOLOGY // Rhinology Anterior skull base**

Deep nasal tip abscess

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Nasal deep abscesses are an uncommon entity in clinical practice. Its most frequent location is the nasal septum and are usually of traumatic origin. We describe the clinical case of a patient without underlying immunsuppression carrying the A1555G mutation of the MTRNR1 gene, who presented a deep nasal tip abscess secondary to vestibule bulb. In the culttue of the abscess exudates Staphylococcus aureus was isolated. After intravenous treatment with broad spectrum antibiotics and surgical drainage the patient recovered without complications or sequelae. We have not found any previously published case of nasal abscesses in this location.

Keywords // Abscess, nasal disorders, staphylococcus aureus, mitochondrial DNA

**PR53 // RHINOLOGY // Rhinology Anterior skull base**

endoscopic dacroycystorhinostomy seems promising for lacrimal stenosis

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Acquired nasolacrimal drainage obstruction (ANLDO) is a common problem with symptoms like epiphora and dacryocystitis. The standard surgery for ANLDO is dacryocystorhinostomy (DCR) in which the lacrimal sac is connected directly to the nose. There are two types of DCR, external (exDCR) and endonasal (enDCR).

Our aim was to determine the total outcome of enDCR and to analyze the success rate in relation to obstruction levels as there have been few reports on these aspects.

**Material and methods**

A retrospective chart review was performed at the Department of Otorhinolaryngology at the Hospital of Holstebro in the 2005-2010 period. All patients were evaluated by an ophthalmologist before surgery, who categorized the site of obstruction as proximal (from punctum to the end of the common canaliculus) or distal (saccus and the nasolacrimal duct). The need for additional nasal surgery was evaluated by an otorhinolaryngologist. The surgical outcome was evaluated at the second follow-up six months after surgery and the subjective improvement and the patency of the neo-ostium were determined.

Result

A total of 61 operations were performed of which 55 were included. The success rate after enDCR was 91%. Categorizing the level of obstruction, 41% were distal of which 92% were successful, and 59% were proximal of which 90% were successful.

Conclusion

We suggest enDCR for both distal and proximal stenosis as the obstruction level seems to have no influence on the success rates.

Keywords // rhinology, dacrocystorhinostomy

**PR54 // RHINOLOGY // Rhinology Anterior skull base**

3D endoscopy for endonal sinus and skull base surgery

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It is indubitable that the endoscope is a key tool in endonal sinus surgery, and has close relations with successful outcomes. Therefore, the quality of endoscopic images has been a matter of concern for surgeons. Recently, the use of endoscopy is expanding to the field of skull base surgery. Although recent endoscopes have gained a similar resolution to microscopes, two-dimension was one of weak points in endoscopic skull base surgery compared with microscopic surgery. This study aimed to illustrate the efficacy of a three-dimensional (3D) endoscope for endonal sinus and skull base surgery. Clinical utility of a 3D endoscope was examined in six cases of conventional endoscopic sinus surgery. Educational effects of a 3D endoscope were investigated by questionnaires to otolaryngologists and neurosurgeons, who participated to our dissection courses for endonasal sinus or skull base surgery. In clinical setting, 3D endoscopic surgery required no additional surgical time and blood loss, and caused no difficulties in surgical procedures in comparison with conventional 2D endoscopic surgery. It was noted that a 3D endoscope provided superior orientation for the depth of ethmoid sinuses. In questionnaires to participants of dissection courses, 90% of respondents replied that 3D endoscopy makes easy understanding the anatomy of sinuses and skull base. The present results indicate that a 3D endoscope may become standard equipment for endonal surgery.

Keywords // endoscopy, endonasal sinus surgery, skull base, 3D education

**PR55 // RHINOLOGY // Allergy**

Measurement of IL-5 IL-levels in children with nasal polyposes of various etiologies

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Aim: The aim of our study was to compare nasal polyposes of differing morphology and clinical course presenting in the following underlying conditions: cystic fibrosis, atopic individuals (confirmed with specific IgE examinations), chronic non-atopic polyposis. Clinically nasal polyps in cystic fibrosis have the highest rate.

Examination: We examined 17 nasal polyps removed during FESS in individuals aged 4 to 17 years: 5 polyps were from children with cystic fibrosis, 6 were from IgE-confirmed atopic children and 6 polyps were from children with non-atopic, chronic rhinosinusitis. All three types of polyps were compared histologically. The levels of IgE in nasal polyps were measured using ELISA method.

Results: The levels of IL-5 in children with cystic fibrosis, and in atopic individuals were 0.450 - 1.000 units, and 0.600 - 1.500 units, respectively. In children with chronic rhinosinusitis the levels of IL-5 were 0.456 - 0.557.

Keywords // endoscopy, nasal polyposes, cystic fibrosis, atopy, Rhinology
Local corticosteroid treatment was administered in the postoperative phase in all three groups, 50 Åkg b.i.d. in both nostrils; in atopic children the treatment was supplemented with oral desloratadine. Histological evaluation revealed the ulceration of the ciliated mucosa, lymphocytic infiltration and eosinophil cells in all three types of polyps, and cystitis fibrosis polyph had neutrophil granulation.

Conclusion: The above mentioned parameters do not account for the differing clinical behavior of various polyps. Further studies are warranted.

Keywords // II-L, II-S, nasal polyps

PR56 // RHINOLOGY // Allergy

SPECIFIC IMMUNOTHERAPY IN PATIENTS WITH ALLERGIC RHINITIS: 5-YEAR RETROSPECTIVE STUDY
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Governmental Institution “Institute of Otolaryngology named after Prof. O.S. Kolomijchenko of Academy of Medical Sciences of Ukraine

It was conducted 5-year (2007 - 2011) retrospective study of efficacy of allergen-specific immunotherapy (SIT) in 750 patients with allergic rhinitis (AR) in Ukraine. Among patients with AR 34 % had symptoms of seasonal allergy and 42 % had symptoms of perennial allergy, 24 % of patients had polyvalent sensitization to household and pollen allergens. In 480 patients with seasonal AR (64%) SIT was carried out by subcutaneous injection method and in 279 patients (36%) was performed sublingual SIT. In group with perennial allergic rhinitis SIT by subcutaneous injection method was applied in 107 patients (41, 9%), sublingual SIT “” in 148 (58, 1%). 111 (61,6%) patients with polyvalent sensibilization to household and pollen allergens received combined specific immunotherapy (injection and sublingual dragees), 32 (17,8%) patients received only dragees, 37 (20,6%) "" only injections. SIT-course duration was following: during 1 year “” 165 patients, from 1 to 2 years “” 155, from 2 to 3 years “” 190, more than 5 years “” 240 patients. Dynamics of the main nasal and eye symptoms in the course of treatment has been studied. Results of application of SIT by injection, peroral and combined methods were estimated as “excellent” and “good” by 83% of patients in group with perennial allergic rhinitis, 93 % of patients with seasonal allergic rhinitis and 84 % - in group of polysensitized patients.

Keywords // allergic rhinitis, specific immunotherapy

PR57 // RHINOLOGY // Rhinology Anterior skull base
Rendu-Osler Disease-Description of three families
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Introduction: Hereditary Hemorrhagic Telangiectasia (HHT), also known as Rendu-Osler-Weber is a fibrovascular dysplasia. It is a hereditary disease, a rare condition with autosomal dominant transmission, characterized by recurrent epistaxis, skin and mucosal telangiectasias and visceral arteriovenous malformations. This work aims is the description of several cases of HHT, belonging to three different families at different stages of the disease, as well as a literature review of their clinical manifestations, diagnostic and therapeutic approaches.

Material and Methods: Conducting interviews of family members affected by the disease and clinical consultation process (age, sex, onset of symptoms, triggers, comorbidities, drug habits, the number of hospital admissions, complementary examinations carried out and treatments instituted). Results: The majority of the family members started episodes of epistaxis in childhood. Stress and physical effort was the most mentioned triggers. Various treatments were established from nasal packing, catherization, radiotherapy, arterial embolization according to the disease status. Conclusions: Epistaxis emerges as the predominant symptom, and early in the disease course. The treatment is mainly supportive and prevention of complications. Despite the many available options there is still no treatment entirely satisfactory. For this reason, the therapeutic modalities remain a source of interest and challenge in Rendu-Osler-Weber’s disease.

Keywords // Rendu-Osler-Weber syndrome, epistaxis, Hereditary Hemorrhagic Telangiectasia

PR58 // RHINOLOGY // Rhinology Anterior skull base
Malignant melanoma in the nasal cavity

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Malignant melanoma is extremely rare in the aerodigestive tract, according to the literature from 0.5 to 4%, the majority arising in the nasal cavity or paranasal sinuses. The nasal cavity is most commonly affected where the anterior septum is most often involved, followed by inferior and middle turbinate. It usually occurs in patients between 50 and 80 years of age. Malignant melanomas of the nasal cavity and sinuses are characterized by early and repeated recurrences. The preferred treatment is surgery.

We want to report a patient 78 years old female with history of left sided progressively increasing nasal obstruction, frequent bleeding and mucopurulent secretion from the left side of the nose and loss of sense of smell . After ENT examination and nasal endoscopy we revealed a brown, smooth mass in the left nasal cavity, soft consistency that filling the whole left side of the nose and extending up to the choana.

CT scan of paranasal sinuses showed that tumor formation fills the left nasal cavity, anterior and posterior ethmoidal cells and left maxillary sinus. The patient underwent tumor resection in the FESS technique and then conducted post-operative chemotherapy. Histopathology and immunohistochemistry showed that it was a malignant melanoma. Repeated CT scan PNS after surgery showed normal findings.

After two years there was a recurrence of the tumor in the left nasal cavity, with no regional or distant metastases.

Keywords // Malignant melanoma, nasal cavity, paranasal sinuses, fess

PR59 // RHINOLOGY // Rhinology Anterior skull base
fungal rhinosinusitis as diagnostic and therapeutic problem
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Chronic rhinosinusitis is one of the most frequent contemporary disease . In 1981, Millar has coined the term Allergic Aspergillus Sinusitis, and in 1983 Katzenstein je demonstrated that other species apart from Aspergillus could be identified. The term Allergic Fungal Sinusitis (AFS) is more appropriate for real nature of disease.

According to today,s knowledge fungus –associated disease of the nose and sinuses can be classified in 1. Non-invasive forms, with fungi present in mucus of the nose and paranasal sinuses, and 2. Invasive forms, with fungi penetrating mucosa, submucosa, blood vessels and/or bone and disease can have fulminant form and be life threatening.

The problem is that AFS is often unrecognized and is generally underdiagnosed. It is estimated that 5% to 10% of all patients with chronic sinusitis requiring surgery have AFS. . Diagnostic procedure podrazumeva cooperation between ENT surgeon, pathohistologist and microbiologist .Even if we identify fungus therapy is not jet defined completely,is very hard , and very often requires repeated surgical procedures.

In period from January 2005 till December 2010 we performed 1054 FES surgeons in our Clinic. In 13 cases intraoperatively findings pointed out to fungal sinusitis associated with sinonasal polyposis. We identified fungi in mucus in only 5 cases by direct mycological examination.

Keywords // fungal sinusitis, diagnosis, treatment

PR60 // RHINOLOGY // Rhinology Anterior skull base
FUNGAL SINUSITIS; OUR EXPERIENCE ON SURGICAL TREATMENT AND OUTCOME
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Introduction: Fungal sinusitis (FS) is divided into acute invasive (life-threatening and high morbidity disease) and chronic, invasive or not, forms which usually have a good prognosis.

Aim: The aim of this study is to show the diversity of clinical appearance and prognosis of fungal sinusitis, depending on its type and to underline the role of surgical treatment.

Material: Fourteen cases of FS presented to our department, during 2011 and 2012 and were included in the study. Nine were immune-compromised and
presented with an acute invasive form (group A), while five were immune-
competent and had a chronic disease (group B).
Methods: All patients were immediately operated after diagnosis. Group A
patients required repeated surgical debridements, after the initial aggressive
surgery. All the removed tissues were sent for culture, microscopy and PCR.
Results: Mucor, Scedosporium and Alternaria were found in group A patients,
while Aspergillus, Fusarium and Bipolaris were found in group B. All group A
patients had severe comorbidities, such as thrombopenia, leukenopenia, and
hypoklaemia, unlike those of group B. Four of the A patients died within the
next six months, but only one due to FS. Patients B had an excellent outcome
and presented no recurrence.
Conclusion: Aggressive surgical treatment consists the only option for immune-
deficient patients with FS who have the poorest prognosis and more aggressive
fungus species in contrast with immune-sufficient patients with FS.

Keywords: mucor, fungal, sinuisis, immune deficiency, aspergillus

PR61 // RHINOLOGY // Allergy
The effectiveness of diet control in the treatment of food induced allergic rhinitis
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National University Hospital

Background
Although food allergy is well recognized, evidence based information on food
induced allergic rhinitis is scant. Our study aims to evaluate the effectiveness
of diet control in treatment of allergic rhinitis.

Methods:
The study is a prospective study. 449 patients with the diagnosis of allergic
rhinitis refractory to conventional treatment were recruited. A thorough history
and ENT examination identified each patient’s symptoms of allergic rhinitis,
treatment history and concomitant atopic diseases. Both IgE mediated allergic
to common inhalant allergens as well as delayed hypersensitivity to common food
and inhalant allergens was tested for. Patients underwent 1 month of diet
control therapy and their symptoms after therapy were recorded.

Results: After 1 month of diet control. 304 (67.7%) patients experienced >50%
Improvement in their AR symptoms. Patients allergic to malt, Bakers yeast,
oyster, tea, tomato and sesame were more likely to experience symptomatic
improvement. Presence of concurrent IgE mediated allergies to inhalant
allergens did not influence the outcome (p=0.418). Addition of conventional
therapy to the diet control therapy further improved the likelihood of a
therapeutic outcome (p=0.011).

Conclusion: The diagnosis of food induced allergic rhinitis could be considered
when symptoms do not improve with conventional therapy. Diet control
therapy for a month can bring symptomatic relief to some patients with food-
induced allergic rhinitis.

Keywords: food allergy, allergic rhinitis, diet control

PR62 // RHINOLOGY // Rhinology Anterior skull base
PPI in treatment of chronic sinusitis
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INTRODUCTION:
The cause of chronic sinusitis is multifactorial, but nasal edema appears to be
the initial pathologic step. It was suggested that larynge pharyngeal reflux can
cause nasal edema, leading to chronic sinusitis.
The objective of this study is to evaluate gastro nasal reflux as a possible cause
of chronic sinusitis via the role of PPI in its treatment.

METHODS:
34 patients with chronic sinusitis were believed to be appropriate candidates
for functional endoscopic sinus surgery. They were treated with esomprazole
40 mg twice a day for 4 months. After the treatment another evaluation
(physical examination, endoscopic findings and CT scan) of each patient was
done.

RESULTS:
3 of the 34 patients were eventually excluded because underwent the surgery
after one month of treatment .Two patient had no improvement. The conditions
of 29 patients were improved after treatment with PPI. 22 of them, had no complaints and resulted normal in endoscopic and CT scan findings. The
other 7 patients had improved symptoms but not significant improvement in
diagnostic tests. Thus, in total 9 patients of our study underwent FESS.

CONCLUSION:
After reflux treatment, the number of patients requiring sinus surgery was
dramatically reduced. The results of this study indicate that gastroesophageal reflux
should be evaluated and treated before sinus surgical intervention.

Keywords: chronic sinuisis,laryngopharyngeal reflux,PPI

PR63 // RHINOLOGY // Allergy
Efficacy of mometasone furoate in chronic polyoid rhinosinusitis
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Management of chronic polyoid rhinosinusitis (CRS) involves a combination of
medical therapy and surgery.
The aim of study was to assess the efficacy of mometasone furoate in the treatment
of chronic polyoid rhinosinusitis.

Material and methods. Subjects were 84 patients with CRS, who were treated
at the ENT department of the 3-clinic of Tashkent Medical Academy from 2008
to 2012. All patients underwent endoscopic surgery, depending on the spread
of polyoid process.

Results: In 78 patients with morphological examination revealed eosinophilic
infiltration of the stroma of the nasal mucosa and paranasal sinuses. For
comparison, the patients were divided into two groups. The patients of the first
group (n = 42) were treated with beclomethasone dipropionate 50 mcg in each half of the nose 2 times a day for up to 6 months after surgery.

The study showed that relapse was observed in only 3 (7.1%) patients of the
group and in 10 (23.8%) in the control. This can be explained by differences in
the pathogenesis of polyoid sinusitis in individual patients and the existence
of resistance to corticosteroid therapy of polyposis.

From the above it follows that the use of mometasone furoate in the
postoperative period with CPRS helps restore the normal structure of nasal
mucosa, reduces the relapse rate and thus improve the quality of life for
patients.

Keywords: chronic polyoid rhinosinusitis, treatment, morphological examination

PR64 // RHINOLOGY // Oncology, head and neck, oral cavity, pharynx and
trachea
OUR EXPERIENCE IN ENDOSCOPIC APPROACH OF
THE INVERTED PAPILLOMA
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National ENT Institute “HOCIOTA” - Bucharest

Inverted papilloma is a benign tumor arising from the lateral nasal wall (most common ), developing in the vicinity areas (nasal cavity,paranasal
sinuses, rhinopharynx, orbit, skull base,etc).

We took in our study 147 patients with inverted papilloma in a period of 14
years (1998-2012 ) and the preop diagnose consisted of nasal endoscopy and
CT-scan , which allowed us to stage the tumor (Krouse classification).
Endoscopic surgery was able to remove completely the tumor , also taking out
the surrounding mucosa and periostium (by drilling )
Postoperative histological results confirmed the inverted papilloma (all types)
and in some cases we continued with antiviral therapy.

The results are comparable with other studies in the literature with a recurrence
rate of 13 % ( 19 patients ) and a malignancy rate less than 5% ( & patients )

Keywords: nasal tumor , inverted papilloma, endoscopic sinus surgery

PR65 // RHINOLOGY // Rhinology Anterior skull base
INDICATIONS FOR APPLICATION OF FESSION IN
CHILDREN -- OUR EXPERIENCE
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The results are comparable with other studies in the literature with a recurrence
rate of 13 % ( 19 patients ) and a malignancy rate less than 5% ( & patients )
Objective: To show the indication field where FESS has been applied as a diagnostic and/or therapeutic method. Method: A prospective five-year study in the period 2006-2011, including 102 patients, who underwent endonasal FESS of the nose and the PNS. The patients were of average age 10.3±3.78 (2-15 years). Indications for operative treatment were made based on: anamneses, clinical ENT examinations, radiographic procedures, bacteriological/microbiological analyses, allergic, ophthalmological, neuroophthalmological procedures. Results: Acute recurrent bacterial rhinosinusitis was in four patients, chronic rhinosinusitis was in 47.22% of the cases; fungal sinusitis was observed in 2 patients. Complete nasal obstruction in cystic fibrosis and juvenile angiofibroma was present in one patient each (2.77%), antrochoanal polyps in two patients. Orbital sinusogenic complications were found in 4 patients. Traumatic injury of the optic canal and mucocoele/mucopyocele were found in 2 patients each. Intracranial complications of rhinosinusitis was found in one patient. The most frequent indication was chronic rhinosinusitis with or without polyposis. FESS was applied in 29 patients-85.55%. Surgery was preceded by medicamentose therapy and was most frequently continued following intervention. Complications during and immediately after the intervention occurred in 16.66% of the cases. The success rate of the end result was 88.89%. X2=21.778; df=1; p= PR66 / RHINOLOGY // Rhinology Anterior skull base
THE DIFFERENCE IN FACTORS FOR SLEEP IMPAIRMENT BY THE SEVERITY OF CHRONIC RHINOSINUSITIS
Yuji Ando, Shintaro Chiba, Tetsushi Okushi, Hiroshi Miyaroma (Japan)
The Jikei University School of Medicine

Chronic rhinosinusitis (CRS) is a common chronic health condition, affecting 10-15% of the European and US population in recent epidemiologic studies. Sleep impairment is a significant problem for patients with inflammatory disorders of the upper respiratory tract, such as allergic rhinitis and CRS. But, Sleep impairment has been less well studied in patients with CRS. Accordingly, we investigated the incidence of sleep problems associated with CRS and also examined which factors are involved in sleep problems by the severity of CRS. This study design is prospective study. 685 consecutive adult patients who underwent endoscopic sinus surgery (ESS) for CRS were analyzed. All of the patients completed a QOL questionnaire. In addition, data were compiled for the patients' background parameters. The patients were stratified into two groups on the basis of the sleep score 3%≤4 (moderate or severe symptoms, hard to tolerate) and

PR67 / RHINOLOGY // Rhinology Anterior skull base
BMI-1 and Snail in olfactory neuroblastoma
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Introduction: Olfactory neuroblastoma (ONB) is a malignancy of the nose and paranasal sinuses. Presentatation varies from local disease to aggressive invasion into the anterior cranial fossa and distant metastases. Snail is a transcription factor regulating neural crest migration and epithelial-mesenchymal transition. BMI-1 is a polycomb protein regulating neural stem cells and is implicated in neuroblastoma formation. Patients & Methods: A series of metastatic and non-metastatic ONB's treated at an academic tertiary care referral centre during 1985-2009 with paraffin embedded tissue samples available from primary tumour and metastases was used. The tissue was stained for BMI-1 and Snail protein expression. The frequency of immunopositive tumour cells was compared between primary tumours and metastases and in relation to clinical features including outcome. Results: Nuclear protein expression of both BMI-1 and Snail is significantly more frequent in metastases compared with primary tumours. Also, cytoplasmic Snail expression is more common in metastases. Nuclear Snail expression correlates with patient survival, but BMI-1 expression does not. Clinical staging systems (Dulguerov, Kadish) and histological stage were found not to correlate with protein expression. Conclusions: Due to the unpredictable nature on ONB, new biomarkers are needed. Our results suggest that neural stem cell related transcription factors are involved in malignant behaviour.

PR68 / RHINOLOGY // Rhinology Anterior skull base
Endoscopic surgery for juvenile nasopharyngeal angiofibroma
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Objective: To present our experience with Nineteen patients diagnosed with Juvenile nasopharyngeal angiofibroma (JNA) who were resected with endonasal endoscope surgery. Methods: Records of 19 patients treated by endoscopic surgery between 2003 and 2011 were reviewed retrospectively. According to Radkowski's classification, 5 patients were stage Ia, 6 patients were stage Ib, 4 patients were stage IIa, and 4 patients were stage IIb. The tumor stages, feeding vessels, operating time, complications and recurrence were observed and recorded. Ten patients received preoperative angiographic embolization and 3 patients received intraoperative external carotid artery clamping. Tansnasal or transpyterygoid and posterolateral wall of maxillary sinus approaches are used for tumor resection. Results: The mean duration of the surgery was 2 hours. The mean intraoperative blood loss of patients received preoperative hyperselective embolization was 470 ml, received intraoperative external carotid artery clamping was 510ml, patients not received arterial supply blocking was 930ml. No postoperative complications were observed. All patients were followed-up for 9 months to 3 years and no recurrence. Conclusions: Endoscopic resection of JNA is a difficult but effective operation. The key techniques to remove tumor are bleeding control, drilling-out the bone that tumor invaded. Endonasal surgery combined with a preoperative embolization of the arterial supply can control the blood loss.

PR69 / RHINOLOGY // Rhinology Anterior skull base
Case report: Three different histopathological findings at patient with inverted papilloma
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Department of Otorhinolaryngology, City General Hospital "8-September" Skopje, Republic of Macedonia

Objective: To show a case of patient with nasal polyps and massive inverted papilloma in left maxillary sinus and ethmoid cells who after 16 years of presence of nasal polyps undergo to operative treatment with FESS. Design: Case report
Method: 63 years old male patient, smoker and frequently exposed to chemical pollutants, treated operatively (FESS) in general anesthesia, with complete obstruction of left nasal cavity with nasal polyps, maxillary sinus ethmoid cells fulfilled with polypoid-like masses. All extracted parts were particular marked and sended to histopathological verification. Results: Histopathological findings showed three different types of tissue-polyps in nasal cavity, inverted papilloma in left maxillary sinus and ethmoid cells and, squamous cell carcinoma in situ in near posterior wall of maxillary sinus. Patient was classified as T1 N0 M0 by Dulguerov staging system. There were made preoperative CT-scan and a new CT - scan, 2 months after operation. Conclusion: Operative materials needs meticulous histopathological analyses, because there can be find different types of tissue at same patient.

PR70 / RHINOLOGY // Rhinology Anterior skull base
MICROBIAL FLORA SIGNIFICANCE IN CHRONIC POLYPOID RHINOSINUSITIS DEVELOPMENT
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One should timely establish the etiology of rhinosinusitis and clearly differentiate its various forms in order to select the correct treatment strategy and reduce the frequency of unnecessary antibiotics use.
Determining the role of microbial factor as one of the reasons of chronic polyoid rhinosinusitis (CPRS) development was the aim of the study. Bacteriological and microscopic examination of material taken from polyoid tissue surface of 40 operated patients was made. Microorganisms in etiologically significant number were identified in 36 patients (90%) including bacteria and fungi in 27 (75.0%) and 11 (30.5%) cases, respectively. Bacteria included Streptococci (15 cases, 55.6%), Staphylococci (8 cases, 29.6%) and E.coli (4 cases, 14.8%). Fungi included Candida (5 cases, 45.5%) and mold (6 cases, 54.5%). Mold fungi were sown in monocolonal culture which makes them the main etiological factor of CPRS. Microscopy revealed neutrophilic leukocytosis in patients with bacterial flora, eosinophilic in fungal one. Our results demonstrate the need of antibiotics use for CPRS treatment. The use of systemic antibiotics is not always justified, so the local drug “Polydex” becomes the best solution. It contains antibiotics and hormone and affects main etiopathogenic factors of polyoid process in a complex way, thereby reducing the number of polyoid-purulent forms.

Methods: We analysed 312 patients over the age of 12 years with a clinical diagnosis of allergic rhinitis from 1st March 2010.-1st March 2012. The descriptive analysis, IK2 test and Mann-Whitney test was performed. Statistics were generated using a standard statistical package (SPSS for Windows, version 13.0).

Results: Out of all patients 104(33.3%) were male, the average ages were 27.87±12.675. Ocular symptoms were found in sensitised to outdoor allergens patients with highly significant correlation p<0.05.

Keywords: allergic rhinitis, ocular symptoms, outdoor, indoor, allergens

PR74 // RHINOLOGY // Rhinology Anterior skull base
Extraduraly plasmocytoma in the sphenoid sinus
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Centre Hospitalier René Dubus

Extradural plasmocytoma is a localised collection of monoclonal plasma cells in an extra skeletal site. This is a rare affection that can occur in any region of the body. The upper respiratory tract, due to its rich lymphatic tissue, is the most common site, accounting for 80% of the cases. They account for 1% of all tumors of the head and neck. There is a male preponderance of 3:1, mainly in the fifth and sixth decades of life.

We reported the case of a fifty-year old man that has presented intense headache, epistaxis, proposis of the left eye, vomits and left oculosmotor paralysis.

Magnetic resonance imaging revealed a left sphenoidal tumor of 37 x 29 mm. Computed tomography showed a left sphenoidal mass eroding the intersphenoidal septum and extending to the right sphenoidal sinus and cavernous sinus in addition to invasion of the internal carotide artery.

The approach was performed by sphenoid sinus endoscopic surgery with biopsy. The histopathological analysis was compatible with plasmocytoma. Bone marrow aspirate showed no plasma cells infiltrate. PET-scan revealed multiple hyper-metabolic intraosseous foci.

Radiotherapy was begun urgently associated with chemotherapy with velcade, thalidomide and dexamethasone. Due to poor clinical response (only 20%), chemotherapy was quickly switched to D-CEF Velcda.

The extradural plasmacytoma, although rare, should be considered among patients with symptoms of sinus neoplasms.

Keywords: extradural plasmocytoma, paranasal sinus tumor, proposis, epistaxis

PR75 // RHINOLOGY // Rhinology Anterior skull base
Mechanical endoscopic dacryocystorhinostomy with inferior mucosal flap: long term results
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Objective: To evaluate long term results of mechanical endoscopic dacryocystorhinostomy (DCR) with an inferiorly based mucosal flap. Methods: A retrospective study of 100 cases of endoscopic DCR between January 2007 and December 2008. Of the 100 cases, fifty were operated with surgical support of the ophthalmologist, who probed the upper and lower canaliculi with Bowman probes, while in the other 50 cases it was the otolaryngologist who did such probing, without support of the ophthalmologist. Then, in all cases, a mucosal inferiorly based flap was used to improve results. The evaluation of the results after 4 years included the subjective perception, the permeability of the lacrimal patency after lacrimal syringing, and lacrimal functional test after modified Jones test.

Results: Of the 100 DCR reviewed, 35% required an ancillary complementary treatment by the otolaryngologist, mainly septoplasty. As for the resolution of epiphora, without support of the ophthalmologist, the patients reported subjective improvement in 75% overall, but in the surgical group with support of the ophthalmologist, satisfactory results reached 92% subjectively, a statistically significant difference.

Conclusions: Endoscopic DCR is effective in the treatment of epiphora, but its results improve when the ophthalmologist helps probing the lacrimal canaliculi during the surgical procedure.

Keywords: dacryocystorhinostomy, endoscopy, epiphora, lacrimal system
Nasal polyposis and allergy
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Background: Nasal polyps represent edematous tissue and they consist of respiratory epithelium covering very edematous stroma infiltrated by a number of inflammatory cells with eosinophils predominating.

The investigation had as objectives to know the relationship between the nasal polyposis and the allergic disease.

Methods: We studied 27 patients with nasal polyposis and determined serum specific IgE through RIDA X – screen method.

Results: High level of specific IgE was obtained in 23 % of the studied patients with nasal polyposis. 38% of the patients with nasal polyposis showed high level of dermatophagoides pteronyssinus and dermatophagoides farinae, 28 % high level of grass pollens, 8% high level of tree pollens, 7% high level of aspergillus fumigatus, alternaria alternata and cladosporium herbarum, 2% high level of animal danders, the rest-others.

Conclusions: The high level of specific IgE for the studied patients makes us conclude that there is a relationship between nasal polyposis and allergic disease, even there are no evidences in larger studies.

Keywords: nasal polyposis, specific IgE levels

PR77 // RHINOLOGY // Rhinology Anterior skull base
A case of nasal glial heterotopia in adult
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Nasal glial heterotopia is known as nasal glioma representing collection of normal glial tissue in an abnormal location isolated from the nervous system without intracranial connection. Nasal glial heterotopia is a rare congenital lesion that is thought to be the result of an abnormal embryonic development. It is frequently diagnosed in newborns or infants, however, it is rarely found in adults. Histologically, these tumors are composed of astrocytes and neuroglial cells interlaced with fibro-vascular connective tissue that is covered with skin or respiratory mucosa.

Case report: A 58 year old man was referred to our hospital for evaluation of unilateral nasal obstruction. CT scan showed an iso-dencity mass which occupied the right nasal cavity, maxillary, anterior ethmoid, and frontal sinus, with no erosion of the bony walls. There was a small defect in the cribiform plate.

Total endoscopic resection of the tumor was performed under general anesthesia. No cerebro spinal fluid (CSF) leakage was found during and after the operation. Three hours after operation the patient had convulsions. The CT showed frontal lobe cerebral hemorrhage. He was treated in the central care unit with an anticonvulsant sedative. One day after the convulsion his consciousness became clear without dyskinesia.

The tumor consisted of neuroglial cells covered with respiratory mucosa. The cells were positive for glial fibrillary acid protein (GFAP).

Keywords: nasal glial heterotopia

PR78 // RHINOLOGY // Rhinology Anterior skull base
Spontaneous Intrasphenoidal Meningoencephalocele; Endoscopic Closure with a Contralateral Nasal Septal Flap
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Spontaneous meningoencephalocele of the lateral wall of the sphenoid sinus is remarkably rare. Its association with obesity, intracranial hypertension, developmental osseous defects and extensive pneumatization of the sphenoid sinus, were all reported. However, its etiology hitherto remains unclear. No consensus regarding gold standard management exists and various surgical approaches have been described.

A 49 year old woman presented with a 6 month history of left-sided CSF rhinorrhea, anosmia and headache. Apart from the idiopathic hypertension she was otherwise physically healthy with no other pertinent medical history.

Neuroimaging revealed temporal lobe protrusion into the inferior lateral recess of the left sphenoid sinus. Given its position, an image-guided endoscopic transpterygoid approach was chosen. Preoperative DSA embolization of the left maxillary artery was performed and harmonic scalpel used to resect prolapsed brain tissue. Denuded bony defect was concealed with free mucosal flap and contralateral nasal septal flap applied in an overlay technique. Layers were immobilized with surgical glue and gelfoam. Foley catheter was used to stabilize the closure.

In conclusion, the distinct endoscopic transpterygoid approach for the patient with intrasphenoidal meningoencephalocele is described. Choosing the best surgical solution for this pathology can be taxing and uniquely tailored individualized procedure is mandatory.

Keywords: lateral recess, sphenoid sinus, spontaneous CSF-leaks, endoscopic

PR79 // RHINOLOGY // Rhinology Anterior skull base
A case of giant Capillary Hemangioma of the Sphenoid Sinus.
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Background: Capillary hemangioma is a rare entity of isolated sphenoid sinus mass. Only two reliable cases are found in literature.

Case description: A 65-year-old woman complained about headaches of the right periorbital region, and transient diplopia. CT-scan and MRI features showed a homogenous sphenoid sinus mass pushing away the dorsum sellae bone. Biopsy by endoscopic approach showed a solid fibrous mass weakly vascularized and pathological analysis concluded to fibrous tissue containing vascular structures without specificity and malignant feature. The patient was cured of headache and didn’t come back to follow-up. Six years later, symptoms reappeared and imaging revealed persistent lesion, doubled to volume, pushing away cavernous sinus, carotid arteries and destroying bone structures. Biopsy and pathological analysis showed a capillary hemangioma. Complete surgical removal was performed by endoscopic approach with both ENT and neurosurgeons.

Conclusion: Pathological diagnosis of capillary hemangioma may be difficult due to hemorrhagic and inflammatory infiltration. Into the sphenoid sinus, its complete resection has to be carefully performed but remains even possible for patient with few symptoms because of endoscopic approach weak morbidity and safety of double-team surgery.

Keywords: Capillary hemangima; sphenoid sinus; double-team surgery

PR80 // RHINOLOGY // Rhinology Anterior skull base
ENDOSCOPIC TURBINOPLASTY IN THE TREATMENT OF CONCHA BULLOSA RELATED HEADACHE
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DIPARTIMENTO DI SCIENZE MEDICHE PREVENTIVE SEZIONE DI OTORINOLARINGIOATRIA, AOU Federico II, Napoli, Italy

Rhinogenic headache is craniofacial pain associated to anatomical anomalies of nose such as concha bullosa. It consists in an abnormal development of the ethmoidal cells that causes the pneumatization of the head of the turbinate, engaging the space between the septum and the lateral wall of the nose. The contact between septum and concha can stimulate trigeminal trigger zones causing headache. Aim of the present study is to evaluate the efficacy of endoscopic turbinoplasty in the treatment of concha bullosa related headache.

We enrolled 60 patients (25 F and 35 M, mean age 38,5) with chronic headache (>2 months) without sinusal diseases, concha bullosa and mucosal contacts between septum and concha by CT and endoscopy. Before endoscopic treatment and 45 days, 3 and 6 months later, patients were submitted to:

- Nasal endoscopy
- MIDAS score (correlating headache to quality of life)
- VAS score for headache (from 0=no headache to 10=severe)

Statistical analysis: Friedman test (p

Keywords: Turbinoplasty Endoscopy Concha bullosa Headache
Photodynamic Therapy (PDT) is used not only for oncological diseases treatment today, but for inflammation too. Especially PDT is suitable in case of bacterial infection which is refractory to typical medical management. The risk of chronic bacterial sinusitis accrual is higher in patients with nasal polyps than patient with intact nasal mucosa. Eligible subjects consisted of adult patients suffering from exacerbation of chronic sinusitis and this condition is accompanied by co-factor such as nasal polyps. In the 1st patient group photosensitizer was put on nasal mucosa through application. Patients from 2nd group underwent maxillary sinus prolonged catheterization; photosensitizer was injected into sinus. We used “Photodizine” as a photosensitizer for both groups and accomplished PDT sessions by means 662 nm-wavelength laser. In 1st group marked results weren’t got. In 2nd group the time of catheter standing was reduced in 55% subjects and amounted 4 days and less (versus approximate 7 days for standard schemes of treatment). Polyp condition wasn’t changed visually, but histologically signs of inflammation were more significant in polyps after PDT-session: capillary vessels were expanded, eosinophil’s infiltration increased. So, impact of PDT on polypoid tissue is possible and requires a selection of methodology, but in the first PDT should be directed on elimination of infection.

Keywords // Photodynamic Therapy, nasal polyp

Activated dendritic cells in the treatment of allergic rhinitis.

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In spite of the progress in the diagnostic of allergic rhinitis fully recovery this patients is not possible today. The aim of the study was to investigate the efficacy and safety of immunotherapy in the form of a vaccine based on the dendritic cells in the complex treatment of patients with allergic rhinitis. The methodology of vaccines based on the dendritic cells is that antigen-loaded dendritic cells are used as a vaccine to provoke an immune response to antigens. The study involved 25 patients with allergic rhinitis. Immunotherapy based on intradermal injection of the composition activated dendritic cells together with trace amounts of the antigen provoking. The duration of the therapy is determined in accordance with the registered indications and was 3-5 weeks. Before and after of the immunotherapy was recorded the blood immune complexes containing IgE. Measuring the effect of interleukin-4 in response blast transformation of T lymphocytes, indicating a predominantly humoral (Th2) or predominantly cellular (Th1) the nature of the immune response. Criteria of the efficiency: decrease in the proportion of immune complexes containing IgE, switching the immune response to Th2 to Th1, disappearance of clinical allergic reactions. Reduction of IgE and increased IgG3 immune complexes in patients following a course of the immunotherapy, deliver substantial clinical improvement, which allows us to consider vaccination of dendritic cells as a potential treatment for patients.

Keywords // dendritic cells, allergic rhinitis

Sinonasal ossifying fibroma

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Ossifying fibroma is a rare benign fibro-osseous lesion, which has a mesenchymal origin from the periodontal ligament. It consists of highly cellular, fibrous tissue that contains varying amounts of calcified tissue resembling bone, cementum or both. It is usually seen in women in the third or fourth decade of life, arising from the maxilla and mandible, although other locations within the head and neck have been reported. It presents as a slow-growing mass and it’s usually asymptomatic, but it can express a more aggressive local behavior in other craniofacial bones.

The authors present a case of a 53 year old woman with progressive right nasal obstruction caused by sinonasal ossifying fibroma that involved the right nasal cavity and extend into the right maxillary sinus. Due to progressive growth and worsening of the symptoms, the mass was surgically removed.

Based on this case the authors review the literature emphasizing the clinical presentation, classification, differential diagnosis and treatment.

Keywords // ossifying fibroma, begin fibro-osseous lesion

Inferior turbinate osteoma “rare cause of nasal obstruction in a 19-year-old patient

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Osteomas are the most common benign lesions of the paranasal sinus, but occurrence in the nasal cavity is very rare. Usually they remain asymptomatic for years and are found as a coincidental finding during routine radiological investigations. As they grow they can become symptomatic and may completely obstruct the nasal cavity. Endoscopic surgery is a safe procedure and shows little tendency to recur.

The authors report the case of a 19-year-old male who presented with 3-year history of snoring and progressive left-sided nasal obstruction associated with an ipsilateral facial pain. Anterior rhinoscopy showed an enlarged left inferior turbinate, which was bony hard on palpation. The computed tomography study confirmed a bony-dense enlargement of the left inferior turbinate, occluding almost completely the nasal airway, associated with a right nasal septum deviation. We performed an endoscopic surgery under general anesthesia and the mass was removed completely. Histologic examination showed benign ivory osteoma. One year post-operatively the patient is free of disease and asymptomatic.

We report this case of inferior turbinate osteoma for its rarity. To our knowledge only 6 cases of turbinate osteomas have been reported in literature worldwide.

Keywords // inferior turbinate, osteoma, nasal obstruction

Sinonasal Syphilis “Case Report

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Syphilis is a systemic disease caused by the Treponema pallidum (TP) spirochete. It is known as “the great imitator” and can virtually invade any organ of the human body. Consequently, lesions of the oral and nasal cavity without apparent cause should be studied for the detection of infectious diseases like syphilis.

We report a case of a 41-year-old woman, HIV-positive, who presented with a 4-year history of progressive bilateral nasal obstruction, crusting and purulent rhinorrhea. Facial deformities, saddle nose and frontal knurling, were identified, as well as absence of dental pieces. Nasal endoscopy showed crusting, two septum perforation and communication between the oral cavity and the left nasal cavity. The computed tomography study of the nose and paranasal sinuses was consistent with endoscopy results. Biopsy and blood tests confirmed the diagnosis of syphilis, showing typical spirochetes and a positive TPHA and VDRL (titers of 1:128). The patient was treated with administration of benzathine penicillin G in doses of 2.4 million IU / week for three weeks. The VDRL titer at the end of 12 months was 1:32.

The resurgence of syphilis in the HIV era has an important impact on facial and nasal deformities evaluation. Although less common than other granulomatous diseases, syphilis should not be forgot in the clinical investigation.

Keywords // syphilis, oral, septal perforation, nasal obstruction

Heminasal Agenesis: presentation of a clinical case.
The heminasal agenesis (unilateral arhinia, unilateral aplasia of the nose) is an extremely rare congenital malformation associated, in most cases, with other facial anomalies, including orbit and lacrimal system deformities, proboscis lateralis and a vast number of other facial malformations.

In this work we expose a case of not corrected left heminasal agenesis, in a 29 years old female patient. In addition we detected: ipsilateral agenesis of the maxillary, ethmoidal and frontal sinuses; inferior and interior orbit walls and nasolacrimal canal deformities; other facial anomalies.

In the development of this work we explored the clinical, imagiologic, diagnostic and therapeutic aspects of the named pathology. In addition we proposed a hypothesis concerning the distortion of the normal embryological development process that explains the described phenotype. Despite this pathology being epidemiologically discrete, the presentation of this case allows us to expose a diagnostic and therapeutic approach in patients with congenital facial malformations that can be dealt with in the ENT practice.

Keywords // heminasal, agenesis, congenital, deformities

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Bilateral Sinonasal Inverted Papilloma: case report and review of literature and current practice

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Background:

Sinosal Inverted Papillomas (IP) are uncommon benign tumours of the Schneiderian epithelium. They are locally aggressive with a high tendency to recur and are associated with malignant transformation. Bilateral IP is a rare entity. A case report and review of literature and current practice is presented.

Methods and Results:

A 41-year-old Nigerian man presenting with nasal obstruction was treated endoscopically for bilateral nasal polypsis. Initial histology form both nasal cavities was suspicious of IP.

Follow up imaging showed disease progression with wide spread opacification of all para-nasal sinus groups bilaterally sparing the frontal sinuses with evidence of focal bony sclerosis highly suggestive of IP. Endoscopic medial maxillectomy was performed to clear the disease and further biopsies confirmed presence of synchronous IP in both sinonasal cavities.

Discussion:

This case highlights discrete aetiological origins for Bilateral IP. We observed multicentric IP at distinct sites both independent of each other, as well as secondary to local inter-sinus extension likely through metaplasia of surrounding mucosa.

We demonstrate an endoscopic approach aimed at complete curative resection without recurrence that is suitable even in extensive multifocal disease.

By targeting the tumour and its surrounding mucoperiosteum as well as the underlying bone using new endoscopic techniques we obviate the need for open access and reduce the associated morbidity.

Keywords // Bilateral Inverted Papilloma, Endoscopic

PR89 // RHINOLOGY // Rhinology Anterior skull base

Recovery from long-term severe visual disturbance due to mucocele in the Onodi cell

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The Onodi cell is a pneumatized posterior ethmoid cell lying on the sphenoid sinus, and is closely related to the optic canal. We present a rare case who recovered from long-term severe visual disturbance caused by mucocele in the Onodi cell.

An 80-year-old man was referred to us by an ophthalmologist, complaining of the right blurred vision for a couple of months without other neurological findings. Computed tomography (CT) scan demonstrated a cystic lesion occupying the right posterior ethmoid sinus that suggested the Onodi cell, and bone defect of the optic canal was there. The ophthalmologic examination showed severe visual disturbance (R.V=20 cm/ f.C) and tunnel vision although papilledema was not found.

The surgical treatment using endoscopic endonasal approach was performed under general anesthesia. The cystic lesion in the right posterior ethmoid sinus was opened, and then much purulent discharge came out. We confirmed the right posterior ethmoid sinus was the Onodi cell. His visual disturbance and tunnel vision gradually improved after surgery (R.V=0.07).

Early diagnosis and surgical treatment are essential to recover optic neuropathy caused by such sinus diseases. In this rare case severe visual disturbance improved although a couple of months passed before treatment.

Keywords // Onodi cell, Mucocele, Endoscopic sinus surgery

PR90 // RHINOLOGY // Rhinology Anterior skull base

The complication of FESS surgery in nasal poliposys; the experience of ENT department Cluj-Napoca

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Introduction: The ENT Department of UMF Cluj-Napoca has an over 20 years ESS experience. But the last years experience forced us to change the protocol of diagnose and prepare patients with nasal polypsis for surgical intervention.

Materials & Methods: Retrospective analysis of 216 cases of patients with nasal polyps which were operated in ENT Department between 2008-2011. We analyze the complications of the ESS surgery major and minor complication; also the association with allergy and relation with pre-op/ post-op incidents and complication.

Results: Major complications (intracranial complications, orbital complications which need orbital decompression or bleeding requiring ligation) occurred in 6 cases (2.7%). Minor complications (excessive perioperative hemorrhage and postoperative hemorrhage requiring treatment) occurred in 19 patients (8.7%). In 19 cases patients present allergy at medication and in 2 cases anaphylactic shock.

Conclusion: The increasing of nasal polyps patients associated with medication allergy assess a careful preoperative preparation. The rate of complications was in international limits data. Despite making any allergy tests before operation cud may appear allergic accidents going to anaphylactic shock.

Keywords // FESS, POLIPOSYS, COMPLICATIONS

PR91 // RHINOLOGY // Rhinology Anterior skull base

BLINDNESS RESULTING FROM ORBITAL CELLULITIS AND TROMBOSIS OF THE CAVERNOUS SINUS AS A COMPLICATION OF ACUTE ETHMOIDITIS “THE CASE REPORT

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We describe the case of a 15 years old patient with a history of nasal obstruction, rhinorrea, fever and left retro-orbital pain, periodotal edema and loss of vision with less than 24 hours of evolution. He presented with exuberant left periorbital inflammatory signs, marked proptosis, opthalmoplegia and no light perception. He also had nasal congestion and purulent discharge. The CT scan showed left orbital cellulitis with pre and post septal extension and marked proptosis, extra-conic inflammatory tissue and left ethmotis with fronto-eseno-maxilar completion. He was submitted to endoscopic ethmoidectomy, maxilar sinusotomy and anterior orbitotomy with aspiration of purulent secretions and medicated with IV large spectrum antibiotics, iv and nasal corticoid. Because of a poor recovery he had a CT scan that showed improvement of the periorbital changes but a thrombosis of the cavernous sinus. Although it was isolated a MSSA in the nasal secretions and blood culture, the antibiotic was empirically escalated and began prophylactic hipoacoagulation. There was a good evolution and he was discharged after 30 days. Afterwards it was isolated E.colace and S. mercencens ESBL+ in the nasal secretions. Three months later he was submitted to septoplasty, turbinectomie and review of ethmoidectomy. At the present day the patient has irreversible blindness of the left eye, no nasal symptoms and is being checked for immunodeficiency diseases ** chronic granulomatous disorder.

Keywords // acute ethmoiditis, orbital complications, blindness
PR92 // RHINOLOGY // Rhinology Anterior skull base
Evaluation of an innovative Technology "" Vibrating Aerosols for Acute and Chronic Rhinosinusitis
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PARI GmbH

Background: In the EU and the US acute and chronic rhinosinusitis (ARS, CRS) pose a strong health economic burden. Usual inhalation devices cannot successfully target the non-ventilated paranasal cavities. An innovative vibrating aerosol technology (PARI SINUS), which improves the drug deposition within the sinus cavities, has been evaluated. Method: In a multicentric, non-interventional, retrospective survey, ENT-specialists collected data in a 2-page-questionnaire from patients who had inhaled saline solution with this pulsating aerosol therapy. The effect on ARS and CRS was assessed on a 7-point scale from -3 (very negative) to +3 (very positive). Results: Data from 81 patients (33 ARS, 48 CRS) treated twice daily (mean 2.05 ±0.92) were evaluated. The total effect was rated +2.27 ±0.36 for ARS and +1.76 ±0.43 for CRS patients. Acceptance and handling of the inhalation technique were valued +2.46 ±0.95 and +2.27 ±0.98. An impact on facial pain (ARS +2.17 ±0.89; CRS +1.55 ±1.18), a reduced post nasal drip (ARS +2.16 ±0.73; CRS +1.74 ±0.93) and an effect on quality of life (ARS +2.39 ±0.84; CRS +2.18 ±0.76) were reported. The need for oral antibiotics (ARS +1.63 ±1.31; CRS +1.49 ±1.06), nasal steroids (ARS +1.42 ±1.26; CRS +1.19 ±1.19) and sick leave days (ARS +1.70 ±1.07; CRS +1.26 ±1.23) was diminished. Conclusion: The successful survey alludes to the potential of this painless, non-invasive treatment option in ARS/CRS. Further studies are desirable.

Keywords // Rhinosinusitis, Vibrating Aerosol, Pulsating Aerosol, PARI SINUS

PR93 // RHINOLOGY // Rhinology Anterior skull base
Urinary-LTE4 for Diagnosis of Eosinophilic Sinusitis; 2nd report
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Introduction; Patients with asthma or aspirin-sensitive asthma have been reported to have a poor prognosis. In eosinophilic nasal polyposis (ENP) there is prominent infiltration of eosinophils in the sinus and polyp tissues, which is linked to adult asthma and aspirin-sensitivity, and ENP is the most important factor for overproduction of CysLT in asthmatics. Recent studies reported that ENP tissue contain and produce a large amount of CysLT, and there is a close relationship between CysLT production and eosinophil accumulation in ENP.

Material And Methods; We studied clinicopathological differences among cases with and without asthma or aspirin-sensitive asthma. The following factors were examined: presence of infiltrating cells (eosinophils) in the ethmoid sinus mucosa, amount of CysLT before the ESS. We measured the urinary leukotriene concentrations in 51 patients (including 14 patients with aspirin-intolerant asthma, and 19 patients with aspirin-tolerant asthma) who were in clinically stable condition.

Keywords // Urinary-LTE4, Eosinophilic Sinusitis

PR94 // RHINOLOGY // Rhinology Anterior skull base
Extranasal Rosai-Dorfman Disease of Paranasal sinus mucosa
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We report an unusual case of extranasal Rosai-Dorfman Disease presenting in a 47-year-old woman with lesions of nasal and sinus mucosa unassociated with lymphphadenopathy or systemic symptoms.

Rosai-Dorfman disease (Sinushistiocytosis with massive lymphphadenopathy) is a rare, painless lymphoproliferative disorder of unknown origin with a usually benign course. We describe a patient with widespread disease involving the nasal and sinus mucosa. Histopathology revealed the characteristic features of SHML with emperipolesis and immunohistochemical positivity of histiocytes for S100 and CD68 antigens.

We carried out a FESS and neck dissection. The taken cervical lymph nodes were all without clue of a nodal manifestation of the Rosai-Dorfman-Disease. Also the further examinations did not produce any further manifestations. Exclusive nasal sinus histiocytosis without infiltration of lymph nodes seems to be very rare.

Keywords // Extranasal Rosai-Dorfman disease

PR95 // RHINOLOGY // Rhinology Anterior skull base
Use of FESS as an operative technique in period 2011-2012
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Objective: FESS is operative technique used in different indications of Rhinology. Our purpose is to show the percentual distribution of operations in rhinology which use FESS as operative technique, and distribution per gender. Material and method: 154 patients, operated with FESS in general endotraheal anesthesia, preoperatively tested for inhalative allergens using RIDA 2 panel Results: 154 patients that were examined, underwent an operative treatment, of which 112 were male and 42 were female. They were divided by operative diagnose: Chronic rhinosinusitis- 52 patients 33.7% (34 m,18 f), Maxillary sinus cyst -20,13% (14 m, 6 f ), Nasal polypsis 70 45,5% (56 m, 14 f), Antrochoanal polyp- 8,5,2% (4 m,4 f ). Inverted papilloma -4,2% (all male).All patients were examined for allergy presense, using RIDA test, 18% positive, with a predominance at nasal polypsis et Chronic rhinosinusitis. there were 43%smokers, predominantly at male population. Conclusion: higher percentage of FESS is used in Nasal polypsis and chronic rhinosinusitis. Male population is presented with 73%, female with 27%. At all operated patients, FESS as operative technique showed a good operative results.

Keywords // FESS,nasal polyps, maxillary sinus, maxillary sinus cyst, antrochoanal polyp

PR96 // RHINOLOGY // Rhinology Anterior skull base
PREVENTION OF COMPLICATIONS IN SEPTOPLASTY
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Septoplasty can be considered an easy surgical procedure, but on the other hand it is very difficult to perform it flawlessly. Complications should be avoided where possible. Several studies about the Side-effects related to Hospitalization have been published. There is a constant figure of 9-10% side-effects. 25% were technical problems encountered during a procedure. 42% of which have been determined avoidable.

MATERIAL AND METHODS
We show the safety procedures taken into consideration when performing Septoplasty in our Department, as part of Patient Safety policy. Fixation of the otrachal tube, direction of collumella retractor, marein protection, pushing towards the cartilage when dissecting the superior tunnels, conservation of anterior nasal spine, direction of resection of posterior septum, limited use of antibiotic, prevention of septal haematomas and scars, and nasal packing when necessary are described.

DISCUSSION
It is the policy in our Department to be extremely cautious in every surgical procedure, but this obligation must be taken to the limit when performing non-compulsory surgery. According to the regional regulation on patient safety and beyond, we designed several rules as part of our safety philosophy.

CONCLUSIONS
Following the aforementioned steps, the complication rate in our department is now anecdotal.

Keywords: septoplasty; patient safety

PR97 // RHINOLOGY // Rhinology Anterior skull base

Primary mucosal melanoma of the sinonasal tract: significance of immunohistochemical analysis in diagnostics and optimal treatment
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Introduction: Primary mucosal melanoma of the sinonasal tract is a rare neoplasm, accounting for less than 1% of all melanomas. It has an aggressive and unpredictable biologic behavior characterized by frequent incidence of local recurrence, local and distant metastasis of the disease. There are a number of difficulties in diagnosing primary mucosal melanoma of the sinonasal tract. Immunohistochemistry is invaluable in making an accurate diagnosis. There are still controversies around optimal treatment for this type of melanoma and the most frequent treatments are surgical excision and postoperative radiotherapy.

Materials and methods: This paper summarizes the results of previous research concerning sinonasal mucosal melanoma, and by the example of two patients suffering from mucosal melanoma, we describe clinical and histopathological features of this rare neoplasm and our experience in its diagnosis and treatment.

Conclusion: Clinical characteristic of mucosal melanoma, regardless of the stadium of the disease, do not indicate the nature of this disease. Only histopathological analysis complemented by immunohistochemical analysis contributes to accurate diagnosis of the disease. According to most recent research, despite aggressive surgical treatment and radiotherapy this disease still has poor prognosis.

Keywords: sinonasal mucosal melanoma, immunohistochemistry, treatment modalities

PR98 // RHINOLOGY // Rhinology Anterior skull base

Double Septal Buttons: A Novel Method Of Treating Large Anterior Perforations
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Patients with nasal septal perforations regularly present to the Ear, Nose and Throat outpatient department.

Anterior perforations, due to lamina airflow disturbance, lead to symptoms including: nasal crusting, epistaxis, obstruction, whistling and infection. Septal buttons are inserted for symptom control when medical treatment fails.

Standard Silacone septal buttons (Medasil, Leeds, UK) measure 28mm in diameter and consist of a central circular post between two flexible discs. Poor fitting buttons lead to patient dissatisfaction, button dislodgement and on-going symptoms.

The "double septal button" is a novel method of closing a large perforation. A 60 year old lady presented with a large septal perforation. Prior surgical attempts at closure had failed and standard septal buttons had dislodged with very minimal symptom improvement.

Intra-operatively, her septal perforation measured at 22mm antero-posteriorly. 2 standard septal buttons were measured, trimmed and sutured together to fit the 22mm diameter perforation. 3-0 Prolene was knotted on the medial aspect to prevent irritation.

The "double septal button" was inserted using a standard technique, under general anaesthetic.

At 3 month follow up the "double button" was in situ. The patient was pleased with her symptom control; minor trimming of the inferior border of the disc was performed to optimise her symptoms.

The "double septal button" is a simple and cheap alternative to the custom made septal button.

Keywords: Septal perforation, septal button.

PR99 // RHINOLOGY // Allergy

Allergic Specific IgE Levels in Adult Allergic Rhinitis Patients
BILAT CETIN, UGUR KARAPINAR, OMER SAGLAM, ENGIN DURSUN, NERGIS SALMAN COSKUN (Turkey)
Gumusuyu Military Hospital

Objective: The correlations between different antibody groups were investigated in allergic rhinitis (AR) patients.

Method: Medical records of 147 adult patients with AR were evaluated retrospectively. Serum IgE levels was measured by standard 20 parameter for each patient with MAST assay: Polycheck Allergy (Biocheck GmbH, Germany) using a panel of inhalant allergens.

Results: In 14 patients (9.5%) singe was detected against only one allergen, while in 133 patients (90.5%) singe was detected against multiple antigens. The most singE positivity was against the dog epithelium (e02_e05) (n = 66, 44.9%) Serum antibody levels were higher in the patients with singe was positive against multiple antigens.

Conclusion: AR patients are sensitive to more than one antigen. When the number of sensitive antigens was higher serum antibody levels were increased.

Keywords: Specific IgE, Allergic Rhinitis, Adult

PS01 // SNORING AND SLEEPING // Snoring and obstructive sleep apnea
An Integrative and Holistic Approach to Snoring and Sleep Apnea
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Center for Integration in Ears, Nose, Throat and Allergy

Background: The conventional treatment approaches to Obstructive Sleep Apnea fail to take into account the collateral and inter-related contributing factors of other functional imbalances that are contributing to chronic age-related disease in the same patient. A comprehensive and integrated approach to treating Obstructive Sleep Apnea while simultaneously assessing functional imbalances and correcting those imbalances is not generally the approach that Otorhinolaryngic specialists employ in the treatment of OSA patients.

Methods: We have employed a comprehensive and integrated approach to treating Obstructive Sleep Apnea while simultaneously assessing functional imbalances and correcting those imbalances using state-of-the-art assessment tools and then designing a practical framework for weaving functional medicine into an integrative and synergistic approach to treating Obstructive Sleep Apnea.

Results and Conclusions: With a comprehensive and integrated approach to treating Obstructive Sleep Apnea while simultaneously assessing functional imbalances and correcting those imbalances, we have improved patient overall wellness. Using state-of-the-art assessment tools and then designing a practical framework for weaving functional medicine into an integrative and synergistic approach to treating Obstructive Sleep Apnea, we are able to deliver personalized care and more-adequate correction of associated chronic age-related disease.

Keywords: Sleep, Nose, Apnea, Hormones, Aging, UPP, Pillar

PS02 // SNORING AND SLEEPING // Snoring and obstructive sleep apnea
THE PREDICTIVE VALUE OF MULLER'S MANEUVER FOR C.P.A.P. TITRATION IN O.S.A.H.S. PATIENTS
ANDREA DE VITO, MARCELLO BOSI, CLAUDIO VICINI (Italie)
MORGAGNI-PIERANTONI HOSPITAL

To investigate the role of awake Upper Airways endoscopic assessment as predictor parameter for C.P.A.P. titration in O.S.A.H.S. patients therapy.

METHODS: Retrospective analysis of endoscopic assessment with Mueller's maneuver, applying the Nose Oropharynx Hypopharynx score (NOHs), which allows a numeric score of the grade of U.A. obstruction. Furthermore we analysed anthropometric (BMI, Neck Circumference NC) and polygraphic
parameters (A.H.I., O.D.I.). RESULTS: We identified 3 groups of patients: 67/90 who needed intermediate CPAP values; 13/90 who needed high CPAP values and 10/90 who needed low pressure values. All the parameters analysed didn’t show significant statistical value as CPAP titration predictor, except BMI (p=0.0013). However higher values of anthropometric parameters (NOHs%<19, BMI>35-CN<45) showed a sensitivity of 69.2% as single parameter and 76.9% as combined parameters and a specificity between 66.2%-72.7% as a single parameter and 43.4% as combined parameters, identifying patients who needed high therapeutic CPAP value. Lower values of anthropometric parameters (NOHs%>36, BMI<16-CN>29-CN) showed a specificity of 58% as single parameter and 80% as combined parameters, identifying patients who didn’t need therapeutic CPAP value.

Keywords // CPAP TITRATION, ANTHROPOMETRIC PARAMETERS, MUELLER MANEUVER

**PS03** // SNOORING AND SLEEPING // Snoring and obstructive sleep apnea

Drug-in duced sleep endoscopy: conventional versus target controlled infusion techniques: a randomized controlled study

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MORGAGNI-PIERANTONI HOSPITAL

Understanding the sites of pharyngeal collapse is mandatory for surgical treatment decision-making in obstructive sleep-­‐apnea-hypopnea syndrome patients. Drug-induced sleep endoscopy (DISE) allows for the direct observation of the upper airway during sedative-­‐induced sleep. In order to re-­‐create snoring and apnea patterns related to a spontaneous sleep situation, the authors used a target-­‐controlled infusion (TCI) sleep endoscopy (DISETCI), comparing this technique to conventional DISE, in which sedation was reached by a manual bolus injection. The authors conducted a prospective, randomized, unicenter study. The apneic event observation and its correlation with pharyngeal collapse patterns is the primary endpoint; secondary endpoints are defined as stability and safety of sedation plans of DISE-­‐TCI technique. 40 OSAHS patients were included in the study and randomized allocated in two groups: the bolus injection conventional DISE group and the DISE-­‐TCI group. We recorded the complete apnea event at the oropharynx and hypopharynx levels in 4 patients of the conventional DISE group (20%) and in 17 patients of the DISE-­‐TCI group (85%) (P<0.0001). We recorded the instability of the sedation plan in 13 patients from the conventional DISE group (65%) and 1 patient from the DISE-­‐TCI group (5%) (P = 0.0001). Our results suggest that the DISE-­‐TCI technique should be the first choice in performing sleep endoscopy because of its increased accuracy, stability and safety.

Keywords // DRUG-­‐INDUCED SLEEP ENDOSCOPY, OBSTRUCTIVE SLEEP APNEA SYNDROME

**PS04** // SNOORING AND SLEEPING // Snoring and obstructive sleep apnea

Anterior Palatoplasty For Selected Mild And Moderate Obstructive Sleep Apnea: Preliminary Results

Kadriye Serife Ugur, Nebil Ark, Hanif Kurtaran, Gultekin Kizilbulut, Alper Yuksel, Mehmet Gunduz (Turque)
Faith University Medical School

The aim this prospective cohort study is to evaluate the long term efficacy anterior palatoplasty (AP) technique in treatment of patients with mild to moderate obstructive sleep apnea (OSA). Forty-two patients diagnosed as mild to moderate OSA. Participants were performed AP to treat their mild or moderate OSA. Patients were evaluated with one night polysomnography before the surgery and 24 months after the surgery. Patients completed Epworth sleepiness scale (ESS) and visual analog scale (VAS) (with or without sleep apnea before and 24 months after the surgery. Forty two patients with a mean age of 39.2±7.6 were included study. Success rate was 57.1%. Total apnea-hypopnea index (AHI) values significantly decreased after two years (p

Keywords // Obstructive sleep apnea (OSA), anterior palatoplasty (AP), apnea-hypopnea index.

**PS05** // SNOORING AND SLEEPING // Snoring and obstructive sleep apnea

PROFESSOR OF OTOLARYNGOLOGY
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Cairo University

COBLLATION ASSISTED SOFT PALATAL WEBBING FLAP PALATOPLASTY: A NEW TECHNIQUE FOR THE TREATMENT OF SNORING

Keywords // snoring, coblation, palatoplasty

**PS06 // SNOORING AND SLEEPING // Snoring and obstructive sleep apnea

REVISION UVULOPALATOLAPLASTY BY SOFT PALATAL FLAP: A NEW SURGICAL TECHNIQUE FOR TREATMENT OF POST UVULOPALATOLAPLASTY FIBROTIC SOFT PALATE

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CAIRO UNIVERSITY

REVISION UVULOPALATOLAPLASTY BY SOFT PALATAL FLAP: A NEW SURGICAL TECHNIQUE FOR TREATMENT OF POST UVULOPALATOLAPLASTY FIBROTIC SOFT PALATE

Keywords // snoring recurrence, uvulopalatopharyngoplasty, revision palatoplasty

**PS07 // SNOORING AND SLEEPING // Snoring and obstructive sleep apnea

INNOVATION OF A NOVEL SURGICAL DEVICE AND A MINIMALLY INVASIVE SURGICAL OPTION FOR TONGUE BASE REDUCTION IN OBSTRUCTIVE SLEEP APNEA IN 2013 AND BEYOND “TONGUE DEBULKING STAPLER AND TONGUE TISSUE HOLDER”

Ahmed Mohamed Mohye, Eldin El Bassiony, (Kuweit)
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INNOVATION OF A NOVEL SURGICAL DEVICE AND A MINIMALLY INVASIVE SURGICAL OPTION FOR TONGUE BASE REDUCTION IN OBSTRUCTIVE SLEEP APNEA IN 2013 AND BEYOND “TONGUE DEBULKING STAPLER AND TONGUE TISSUE HOLDER”

Keywords // obstructive sleep apnea, tongue base surgery, stapler

**PS08 // SNOORING AND SLEEPING // Snoring and obstructive sleep apnea

It should be a: Snoring clinic

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It should be a: Snoring clinic

Keywords // snoring assessment, multidisciplinary team

**PS09 // SNOORING AND SLEEPING // Snoring and obstructive sleep apnea

LASER TONSILLECTOMY VERSUS LASER TONSILLECTOMY IN OBSTRUCTIVE SLEEP APNEA IN CHILDREN

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Alexandria university hospitals

OBJECTIVES: We aimed to assess the effectiveness and the outcomes of laser tonsillectomy in comparison with laser tonsillectomy in children with obstructive sleep apnea due to hypertrophied tonsils.

STUDY DESIGN: Prospective, randomized study.

RESULTS: Patients were randomly assigned to undergo either CO2 laser tonsillectomy (40 patients) or CO2 laser tonsillectomy (40 patients). Clinical follow-up and bacteriological examination of the tonsillar surface flora were done.

OBJECTIVES: We aimed to assess the effectiveness and the outcomes of laser tonsillectomy in comparison with laser tonsillectomy in children with obstructive sleep apnea due to hypertrophied tonsils.

STUDY DESIGN: Prospective, randomized study.

RESULTS: At the end of the follow-up period, 36 patients (out of 40) who have done laser tonsillectomy were free. Bacteriological examination of the tonsillar surface flora showed marked increase in alpha hemolytic streptococci which is protective. There were only 4 patients who have got complications (either regrowth of residual tonsils, recurrent infection or persistent high ASOT & arthriti.
Completion tonsillectomy & histopathology of the residual tonsils were done. In the histopathological report of the excised residual tonsil, there was no crypt occlusion, cyst or abscess formation and the residual parts of the tonsils contain reactive lymphoid follicles denoting that these residual tonsils were functioning. 

CONCLUSION: Laser tonsillectomy is efficient, safe, less painful with minimal complications like bleeding & infection and preserve part of the immune system when compared to laser tonsillectomy.

Keywords: // laser tonsillectomy versus laser tonsillectomy

**PS10** // SNORING AND SLEEPING // Snoring and obstructive sleep apnea

A study on the assessment of upper airway obstruction in patients undergoing Tonsillectomy+/- Adenoidectomy in sleep related breathing disorders

Srinivasalu Bathala, Prof Ronald Eccles (United Kingdom)
Cardiff University

Aim:
The primary objective of the study was to obtain new knowledge about the severity of airway obstruction in those patients selected for adenotonsillectomy for treatment of sleep related breathing disorders.

Methods and materials:
This was a prospective research study on 50 patients undergoing tonsillectomy +/- adenoidectomy at University Hospital Wales. This study was reviewed and approved by South East Wales Local Research Ethics Committee. Three measurements of Peak oral inspiratory flow (POIF) via an oral cannula, and Peak nasal inspiratory flow (PNIF) using a facemask, were made using a peak flow meter (In-Chek, Clement Clarke International, UK), on the day of surgery and around one month later. The measurements were made according to standard operating procedures (SOP) written for the study.

Results
50 patients (28 female and 22 male) were recruited for the study aged between 5-46 years. All patients received surgery and of these 25 returned to the centre for post-operative measurements. The effects of surgery on oral and nasal airway obstruction showed improvement in both POIF and PNIF. For POIF 17 out of 25 patients showed a numerical increase in peak oral airflow, and that for PNIF 19 out 25 patients showed a numerical increase in peak nasal airflow.

Conclusion:
A peak flow meter measuring POIF and PNIF may be used as a tool to assess the severity of upper airway obstruction secondary to narrowing of the upper airway due to adenotonsillar hypertrophy.

Keywords: // Adenotonsillectomy, Sleep related breathing disorders

**PS11** // SNORING AND SLEEPING // Snoring and obstructive sleep apnea

Indications For Sleep Studies In Children With Sleep-Disordered Breathing (SDB)

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Aim
To evaluate the referral pattern of children with SDB for sleep studies in a district general hospital using evidence-based guidelines published by the American Academy of Otolaryngology, Head and Neck Surgery and the consensus statement of a multidisciplinary working body endorsed by the British Association of Otorhinolaryngologists (ENT-UK).

Methods
A retrospective case note review was undertaken for children who had sleep studies between January and December 2011. The main outcome measures were: Indications for requesting the sleep study; outcome of the sleep study; surgical intervention; duration of inpatient stay and the need for referral to a tertiary centre for further management.

Results
Twenty-nine patients underwent sleep studies in the study period and a comprehensive case-note review was undertaken. Only six patients (21%) fulfilled the criteria for requesting sleep studies. Four of the 29 sleep studies (14%) demonstrated significant episodes of obstructive sleep apnoea. Nine children (31%) underwent surgical intervention in the form of adenotonsillectomy, tonsillectomy or adenoidecotomy. Post-operatively, all patients were discharged the same day without complications or the need to refer to a tertiary centre.

Conclusion
We observed lack of compliance with guidelines and unnecessary spending on investigations. We propose an evidence-based and cost-effective approach for referring children with SDB for sleep studies.

Keywords: // Sleep-Disordered Breathing, Sleep Study, Children

**PS12** // SNORING AND SLEEPING // Snoring and obstructive sleep apnea

The application of an harmonic scalpel to modify Lateral pharyngoplasty

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Expansion Sphincter Pharyngoplasty or Lateral Pharyngoplasty (FPL), have been proposed, involving some progressive modifications, by Pang, Tucker Woodson and Sorrenti; we performed it with the use of an harmonic scalpel. 96 patients with Obstructive Sleep Apnoea Syndrome (OSAS), have been operated with harmonic scalpel, divided into two groups: first group treated with Uvulo-Palato-Pharyngo-Plasty (UPPP) and second group treated with FPL. All the patient underwent to a polysomnography and sleependoscopy before surgery and 6 months after. All patients were aged > 18 years, BMI> 26, AHI between 15 and 70. polysomnographic controls were performed six months after surgery: the patients in both groups had a sharp decline in sleep apnea and a better quality of sleep, which was more significant in those of the second group. The technique we used has been shown to be beneficial in the management of patients with sleep apnea syndrome in middle-to-moderate degree, proving a useful alternative for patients who despite having a clear indication for C-PAP refuse to use it.

Keywords: // lateral pharyngoplasty, osas, harmonic scalpel

**PS13** // SNORING AND SLEEPING // Snoring and obstructive sleep apnea

COMBINED SCHEME OF OBSTRUCTIVE SLEEP APNEA TREATMENT

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The study was aimed to compare the effectiveness of different schemes of post-op management of patients with obstructive sleep apnea after radiofrequency soft palate reduction with partial uvulopalatotomy (RFSPR with PU). All patients (n=80) underwent RFSPR with PU. Patients of the 1st group (n=40) received in post-op: broad-spectrum antibiotic, nonsteroidal anti-inflammatory drugs and local antiseptic. Patients of the 2nd group (n=40) received same scheme and Tonsilgon (50 drops in 50 ml of water, 3 times per day). Patients were followed out-patiently within 10 days after the operation; this time was used for post-op pain and complications assessment. Pain intensity was estimated using 10-point scale, reactive events degree (RED) (bleeding, hyperemia, edema, haematoma, epitelization) ** using 5-point scale. Patients were observed at 1st, 5th and 10th days. Patients of the 2nd group had lower pain intensity from the 5th day, comparing to those in the 1st group: 3-4 and 5-7 points, respectively. The difference became more pronounced at the 10th day: 0-1 points (1st group) and 3-5 points (2nd group). RED estimation showed no difference between 2 groups in bleeding and haematoma: 4-5 points for hyperaemia and edema at 5th day (1st group), 2-3 points (2nd group). Half of the patients had epithelization of operative wound at 10th day (1st group) and at 5th day (2nd group). The use of combined treatment scheme improves patients’ state in post-op.

Keywords: // radiofrequency soft palate reduction, uvulopalatotomy, obstructive sleep apnea, postoperative treatment

**PS14** // SNORING AND SLEEPING // Snoring and obstructive sleep apnea

Rhinopathia nocturna: definition of a hidden disease

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Recent studies show the dependency of nasal resistance on the body position. Incompatibility to CPAP treatment is in 30% related to blockage of the nose. Treatment of mucosal nasal blockage by steroids can improve the AHI.

In ambulant sleep studies/ polygraphy with divided measurements of nasal airflow for both sides, it can be shown that the blockage of one nasal side implements a remarkable increase of the airflow on the other side after changing the body position. The acceleration of the nasal airstream through one side after an arousal induces a Bernoulli-effect and releases snoring by moving of the soft palate when the mouth is closed.

Those findings can be seen even if 4-phase-rhinomanometry shows a normal result during day-time measurement in upright sitting position.

"Rhinopathia nocturna" is the abnormal positional blockage of the nasal airway during sleep.

Keywords // Nasal obstruction, snoring, sleep apnea

PS15 // SWALLOWING // Swallowing
The Role of Chin-Down Postural Technique in Eliminating Aspiration for Patients with Oropharyngeal Dysphagia
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King Saud University

Background/objective: Chin down position is considered one of the positional techniques of behavioral therapy that is used to eliminate aspiration in patients with oropharyngeal dysphagia. The aim of this work was to study the effect of chin down position on aspiration resulting from neurogenic oropharyngeal dysphagia. Materials and methods: In this study, chin down position was applied on seven patients with aspiration resulting from neurogenic oropharyngeal dysphagia. Results: There was highly significant statistical difference in penetration/aspiration score of thin liquids and thick liquids from pre-chin down position to post-chin down position. On the other hand, there was no significant statistical difference in the penetration/aspiration score of semisolids and solids from pre-chin down position to post-chin down position. Conclusion: The results of this study proved the effectiveness of chin down position in controlling aspiration that occurred with thin and thick liquids in patients with neurogenic dysphagia.

Keywords // Dysphagia, chin down position, penetration, aspiration, videofluoroscopy

PS16 // SWALLOWING // Swallowing
USE OF GLUBRAN2 IN UVULOPALATOPLASTY
Ahmed Mohamed Mohye Eldin El Bassiouny, (Kuwait)
CAIRO UNIVERSITY

USE OF GLUBRAN2 IN UVULOPALATOPLASTY

Keywords // Snoring, obstructive sleep apnea, uvulopalatoplasty, Tissue Adhesive

PS17 // SWALLOWING // Salivary glands
Pathological involvement of the submandibular gland in oral cancer; a rare entity
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Guy's & St Thomas' NHS Foundation Trust

ABSTRACT
INTRODUCTION
Oral cavity squamous cell carcinoma (OCSCC) with lymph node metastasis confers a significantly worse prognosis hence surgical management usually involves a neck dissection, with often excision of the submandibular gland (SMG) along with level I neck nodes. The aim of our study was to determine the incidence of pathological SMG involvement in OCSCC patients undergoing a neck dissection.

METHODS
Retrospective analysis identified 120 patients with newly diagnosed OCSCC who underwent either a selective or modified radical neck dissection at our institution over a 9-year period. Pathological reports were examined to determine the incidence of SMG involvement in level I of the neck. Statistical analysis was performed using PASW Statistics 18.

RESULTS
Pathological SMG involvement was found in 1.7% of patients, all of which had advanced disease (T4) at presentation. Two year and five-year disease free survival for the whole group was 65% and 55% respectively. The patients with SMG involvement had a 50% and 0% survival at two and five years respectively.

CONCLUSIONS
SMG invasion in OCSCC appears to be a rare event. SMG preservation during neck dissection should be considered, to minimise the morbidity from xerostomia, if there is no pre-operative indication of gross glandular invasion on clinical or radiological assessment.

Keywords // oral cavity squamous cell carcinoma, submandibular gland

PS18 // SWALLOWING // Swallowing
REVISION OF VIDEOFLUOROSCOPY STUDIES IN PATIENTS WITH OROPHARYNGEAL DYSPHAGIA
Manuel Rodriguez-Paradinhas, Natália Pulido-Fonseca, Teresa Rivera-Rodríguez (Spain)
Hospital Universitario PrÃ–ncipe de Asturias

INTRODUCTION: In the diagnose study of the oropharyngeal dysphagia, two tests are needed, videodenscopy (FEES) and videofluoroscopy (VF).

MATERIAL AND METHODOLOGY: A retrospective descriptive study is carried out with the analysis of 100 (one hundred) videofluoroscopies. These patients were explored firstly with FEES and lately with VF. A comparative study was carried out with basic statistic data regarding the presence or not presence of any alteration of security of deglutition, taking VF as gold standard.

RESULTS: 100 patients were studied with an average age of 62.8 years old (23-92 years old). The most frequent symptoms were: piecemeal deglutition (46%) and choking (81%). 19% of the patients have had previous and repeated respiratory infections before the diagnose. 61% of the cases have neurological records in relation with dysphagia, the most common being strokes and Parkinson's disease (9.8%). We divide the sample into two equal halves. The sensibility and especificity for the first part of the sample was of 68% and 72% respectively with predictive positive and negative values of 70.8 and 69.2%. On the other hand, for the second part of the sample the sensibility and especificity are 91.7 and 88.5% with predictive positive and negative values of 88 and 92% respectively.

CONCLUSION: FEES is a very useful study for the diagnose of the DO although there is a small number of cases is which VF is compulsory to achieve a final diagnose.

Keywords // dysphagia, videofluoroscopy

PS19 // SWALLOWING // Salivary glands
A new approach to Warthin's duct access for the the purpose of sialendoscopy
Jack Kolenda, None (Canada)

Objective: To describe a new approach to cannulation of the submandibular duct for the purpose of sialendoscopy

Design: Observational Study

Methods: 10 patients undergoing sialendoscopy or combined approach for retrieval of submandibular sialoliths. Affected gland's Warthin's duct was subjected to an insertion of a guidewire followed by serial dilatation of dilators ranging from 4 french to 6 french. Following the dilatation placement of an access sheath were performed.

Results: In all 10 patients successful cannulation and maintance of the Warthin's duct was obtained through the duration of the surgery. No failures of cannulation were observed and there were no endoscopically observed tears of the duct.
Conclusion: Entry and maintenance of access of Warthin's duct can be successfully achieved with the use of serial dilators and an access sheath for the purpose of submandibular sialendoscopy.

Keywords // sialendoscopy/Warthin's duct

PS20 // SWALLOWING // Swallowing
AN EVIDENCE BASED APPROACH TO THE CLINICAL MANAGEMENT OF DYSPHAGIA.
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Department of Otolaryngology, Head And Neck Surgery, Royal Glamorgan Hospital, United Kingdom

Dysphagia is frequently encountered by the otolaryngology and due to its diverse causes often poses a diagnostic challenge. Of particular importance in diagnosis is to distinguish between oral, pharyngeal and oesophageal dysphagia. This review was based on a literature search last undertaken on 15 January 2013. The MEDLINE, EMBASE and Cochrane databases were searched using the keyword “dysphagia” in combination with classification, diagnosis, investigations, management, treatment, therapy and surgery. Results were limited to English language articles including clinical trials, randomised controlled trials, meta-analyses, systematic reviews and review articles. Results: The majority of published literature for dysphagia is of level II/III evidence. A review of the literature shows that the clinical history is of paramount importance in distinguishing the cause of dysphagia. There is no significant differences regarding maximum diagnostic efficacy of fibroptic endoscopic evaluation of swallowing compared to videofluoroscopy, and where practicable these investigations complement each other. Structural causes of dysphagia are managed surgically whereas swallowing therapy is efficacious in managing dysphagia due to neuromyogenic disorders. A structured history of dysphagia and its associated symptoms, fibroptic nasendoscopy assessment of swallowing and relevant targeted investigations should lead to the correct diagnosis and appropriate management.

Keywords // Dysphagia, Diagnosis, Investigations, Management, Therapy, Surgery

PS21 // SWALLOWING // Swallowing
OROPHARYNGEAL DYSPHAGIA IN PATIENTS WITH OBSTRUCTIVE SLEEP APNEA SYNDROME
Schindler Antonio, Ginochio Daniela, Francesco Mozanica, Giulia Sonzini, Marika Pecis, Nicola Montano (Italy)
University of Milan

Introduction. Patients with OSAS may be affected by swallowing abnormalities. The effect of different textures and volumes have been systematically studied. Aim of the study: to analyze swallowing using FEES examination with different textures and volumes in a large cohort of patients with OSA. Study design: prospective cross-sectional study. Methods: Seventy-two patients with OSAS were enrolled. The patients were divided in two groups: 30 patients with moderate OSAS, 42 patients with severe OSAS. Each patient underwent fiberoptic endoscopic evaluation of swallowing (FEES) using 5 ml, 10 ml, 20 ml of liquids and semisolids, and solids. Spillage, penetration, aspiration, retentions and piecemeal deglutition were considered. Results: The swallowing examination was considered abnormal in all patients. Furthermore, a correlation coefficient between pre and post-operative POIF was tested used Pearson’s coefficient (.850, p=.000). When compared to the preoperative POIF, 17 patients showed an improvement in the postoperative POIF .6 patients didn’t show any changes between the preoperative and postoperative POIF, and in 2 patients post operative POIF decreased when compared with the preoperative POIF.

Conclusion: Post operative POIF can be used as a tool to show improvement in the upperairway obstruction after adenotonsillectomy.

Keywords // Adenotonsillectomy, Sleep related breathing disorders

PS22 // SNORING AND SLEEPING // Snoring and obstructive sleep apnea
A study to compare Peak nasal inspiratory flow before and after Tonsillectomy+- Adenoidectomy
Mr Srinivasalu Bathala, Prof Ronald Eccles (United Kingdom)
Cardiff University

Aim: The primary objective of the study was to obtain new knowledge about the Peak nasal inspiratory flow before and after the surgery.

Methods and materials: This was a prospective research study on 50 patients undergoing tonsillectomy +/− adenoidectomy at University Hospital Wales. This study was reviewed and approved by South East Wales Local Research Ethics Committee. Three measurements of Peak oral inspiratory flow (POIF) via an oral cannula using a peak flow meter (In-Check, Clement Clarke International, UK), on the day of surgery and around one month later. The measurements were made according to standard operating procedures (SOP) written for the study.

Results: 50 patients (28 female and 22 male) were recruited for the study aged between 5-46 years. All patients received surgery and of these 25 returned to the centre for post-operative measurements. Correlation between pre and post operative POIF was tested used Pearson’s coefficient (.850, p=.000). When compared to the preoperative POIF, 17 patients showed an improvement in the postoperative POIF .6 patients didn’t show any changes between the preoperative and postoperative POIF, and in 2 patients post operative POIF decreased when compared with the preoperative POIF.

Conclusion: Post operative POIF can be used as a tool to show improvement in the upperairway obstruction after adenotonsillectomy.

Keywords // Adenotonsillectomy, Sleep related breathing disorders

PS23 // SNORING AND SLEEPING // Snoring and obstructive sleep apnea
A study to compare Peak nasal inspiratory flow before and after Tonsillectomy+- Adenoidectomy
Mr Srinivasalu Bathala, Prof Ronald Eccles (United Kingdom)
Cardiff University

Aim: The primary objective of the study was to obtain new knowledge about the Peak nasal inspiratory flow before and after the surgery.

Methods and materials: This was a prospective research study on 50 patients undergoing tonsillectomy +/− adenoidectomy at University Hospital Wales. This study was reviewed and approved by South East Wales Local Research Ethics Committee. Three measurements of Peak nasal inspiratory flow (POIF) using a peak flow meter (In-Check, Clement Clarke International, UK), on the day of surgery and around one month later. The measurements were made according to standard operating procedures (SOP) written for the study.

Results: 50 patients (28 female and 22 male) were recruited for the study aged between 5-46 years. All patients received surgery and of these 25 returned to the centre for post-operative measurements. All patients even those as young as 5 years managed to perform the nasal measurements without any problems. Correlation between pre and post operative PNIF was tested used Pearson’s (.663, p=.000). When compared to the preoperative PNIF, 18 patients showed an improvement in the postoperative PNIF. 4 patients didn’t show any changes between the preoperative and postoperative PNIF, and in 3 patients post operative POIF decreased when compared with the preoperative POIF.

Conclusion: Post operative PNIF can be used as a tool to show improvement in the upperairway obstruction after adenotonsillectomy.

Keywords // Adenotonsillectomy, Sleep related breathing disorders

PS24 // SNORING AND SLEEPING // Snoring and obstructive sleep apnea
A study to compare Peak nasal inspiratory flow and Peak oral inspiratory flow before Tonsillectomy+- Adenoidectomy.
Mr Srinivasalu Bathala, Prof Ronald Eccles (United Kingdom)
Cardiff University
Conclusion:
The primary objective of the study was to obtain new knowledge about the Peak oral inspiratory flow and Peak nasal inspiratory flow before the surgery.

Methods and materials:
This was a prospective research study on 50 patients undergoing tonsillectomy +/- adenoidectomy at University Hospital Wales. This study was reviewed and approved by South East Wales Local Research Ethics Committee. Three measurements of Peak oral inspiratory flow (POIF), and Peak nasal inspiratory flow (PNIF) using a peak flow meter (In-Check, Clement Clarke International, UK), on the day of surgery. The measurements were made according to standard operating procedures (SOP) written for the study.

Results:
50 patients (28 female and 22 male) were recruited for the study aged between 5-46 years. All patients even those as young as 5 years managed to perform the oral measurements without any problems. The use of SOPs for the measurements helped to standardize the procedures and reduce error and bias. Correlation between PNIF and POIF was tested used Pearson’s coefficient (0.585) which was significant at the 0.01 level (2-tailed).

Conclusion:
There appears to be a good correlation between POIF and PNIF in patients undergoing Adenotonsillectomy.

Keywords // Adenotonsillectomy, Sleep related breathing disorders

PS25 // SNORING AND SLEEPING // Snoring and obstructive sleep apnea
A study to find the relation between age and Peak oral and nasal inspiratory flow in patients undergoing Tonsillectomy +/- Adenoidectomy
Mr Srinivasalu Bathala, Prof Ronald Eccles (United Kingdom)
Cardiff University

Aim:
The primary objective of the study was to demonstrate relation between age and Peak Oral and nasal inspiratory flow.

Methods and materials:
This was a prospective research study on 50 patients undergoing tonsillectomy +/- adenoidectomy at University Hospital Wales. This study was reviewed and approved by South East Wales Local Research Ethics Committee. Three measurements of Peak Oral inspiratory flow (POIF) via an oral cannula, and Peak nasal inspiratory flow (PNIF) using a facemask, were made using a peak flow meter (In-Check, Clement Clarke International, UK), on the day of surgery and around one month later. The measurements were made according to standard operating procedures (SOP) written for the study.

Results:
50 patients (28 female and 22 male) were recruited for the study aged between 5-46 years. All patients received surgery and of these 25 returned to the centre for post-operative measurements. All patients even those as young as 5 years managed to perform the oral and nasal peak flow measurements without any problems. The use of SOPs for the measurements helped to standardize the procedures and reduce error and bias. As expected, the values for POIF and PNIF varied with the age of the patient. Linear regression models were used to show the relation between age with POIF (r = 0.603, p = 0.000) and PNIF (r = 0.381, p = 0.006).

Conclusion:
There appears to be a linear relation between age and POIF and PNIF.

Keywords // Adenotonsillectomy, Sleep related breathing disorders

PS26 // SNORING AND SLEEPING // Snoring and obstructive sleep apnea
Effectiveness of nasal surgery on sleep quality and sleep-disordered breathing in obstructive sleep apnea syndrome with nasal obstruction
Gegham Khandanyan, Artur Shukuryan (Armenia)
Yerevan State Medical University, ENT Department

Background:
Disordered nasal breathing can be a reason for primary snoring and sleep-disordered breathing. The aim of this study was to evaluate the effect of nasal surgery alone on sleep quality, primary snoring and sleep-disordered breathing (SDB) in adult patients with nasal obstruction and mild or severe obstructive sleep apnea syndrome (OSAS).

Methods:
We followed 38 patients, 25 to 65 years of age, with a case history of oral breathing, snoring, restless sleep with apnea and daytime sleepiness. The patients presented with inferior turbinate hypertrophy, with or without septal deformity or nasal polyps. Radiofrequency submucosal volumetric tissue reduction (RVRT) of inferior turbinate with redness of nasal septum or with removed nasal polyps.

Results:
BMI, nasal breathing, snoring, quality of sleep, daytime sleepiness and apnea/hypopnea index (AHI) were evaluated before and 6 months after surgery. After nasal surgery primary outcomes show sustained improvement of all parameters except BMI and AHI. All the patients postoperatively noted significant improvement of their nasal breathing. Snoring has been reduced from 8.4 to 5.2 (P < 0.000).

Keywords // Snoring, obstructive sleep apnea syndrome, sleep quality

PS27 // SNORING AND SLEEPING // Snoring and obstructive sleep apnea
DETERMINING OF CENTRAL CHEMORECEPTORS SENSITIVITY TO HYPERCAPNIC STIMULUS IN EXPERIMENTAL CONDITIONS
Kalaidzich Zh., Kulchitsky V. (Belarus)
Republic Scientific and Practical Centre of Otorhinolaryngology

Features of electrical activity formation of diaphragm were studied on white laboratory male rats weighing 240-260 g (n=27) under coupling conditions of hypoxia and hypercapnia (carbogen) in surgical experiments. The animals were anesthetized intraperitoneally, a tracheostomy was performed. Electrical activity of diaphragm muscles was recorded. Lidocaine was injected through the hole formed in dura mater at the level of hypoglossal nerves roots outlet in rostral direction. Deep body temperature and electrocardiogram were recorded. The technique of brain chemoreceptors sensitivity determining to increased concentrations of carbon dioxide in the organism was tested. Function of vascular chemoreceptors was blocked by inhalation of hyperoxia gas mixture (O2 content more than 180 mm Hg) in order to exclude their additionalafferent influences. Respiratory center neurons are activated under natural conditions during combination of hypoxia and hypercapnia (blockade of peripheral chemoreceptors and stimulation of central chemosensitive structures). That process is critical for protective reactions formation under conditions of apnea or apneas: the evaluation of any etiology (obstructive sleep apnea, central apnea or apneas). When central chemoreceptors function is violated no natural activation of respiratory center and brain stem reticular formation happens. In this situation prolonged impairment of respiratory rate by apnea or apneas type goes into a long respiratory arrest and death.

Keywords // central chemoreceptors, hypercapnia, obstructive sleep apnea

PS28 // SNORING AND SLEEPING // Snoring and obstructive sleep apnea
NASAL OBSTRUCTION SIGNIFICANCE IN OBSTRUCTIVE SLEEP APNEA MULTILEVEL TREATMENT
Kalaidzich Zh., Makaryn-Kibak A. (Belarus)
Republic Scientific and Practical Centre of Otorhinolaryngology

Study was aimed to assess nasal resistance effect on obstructive sleep apnea syndrome (OSAS) severity in patients with multilevel obstruction. 68 patients (44 males, 24 females) with primary OSAS and nasal obstruction (NO) were observed. OSAS was diagnosed by cardiorespiratory monitoring (CRM) or polysomnography (PSG) and sleep endoscopy (SE). Nasal surgery was performed as the initial phase of treatment to eliminate NO. Patients were divided into 2 groups by surgical method: septoplasty (group 1); septoplasty + nasal valve correction (group 2).

Dynamics of patients’ state was estimated by CRM/PSG and SE. A decrease of apnea/hypopnea index (AHI) was observed in both groups: from 25 episodes/hour to 21.3 e/h (1st group); from 26.3 e/h to 20.1 e/h (2nd group). Obstruction at lower levels remained unchanged. Anterior active rhinomanometry was made 3 month after surgery and showed improvement of all parameters in both groups: total volume flow (TVF) and total resistance.
Introduction: Intersitial radiofrequency (RF) surgery of the soft palate (SP) is an established option in the treatment of habitual snoring with well-reported short-term outcome. Our aim was to assess its long-term outcome at our institution.

Patients & Methods: A series of patients treated with intersitial RF surgery of the SP in 2005 and 2006 was analyzed. Previous tonsillar surgery, septoplasty, or RF surgery of the turbinates was allowed. Simultaneous other surgical treatment was an exclusion criterion. Data on demographic, treatment, and outcome were recorded from medical charts. The patients received a questionnaire regarding their present condition.

Results: Of 501 patients treated during the study period, 135 were included. The median age and BMI was 43 yrs (range, 21-74) and 26.0 kg/m2 (range 19.3-38.0), respectively, 83 (62%) being men. The effect of treatment on snoring was based on self-reporting although questionnaires were available. At six months 30 (24%) patients were satisfied, but less than 10% at 60 months. Sixty-two (46%) patients had additional surgery of SP. Thirteen (10%) developed OSA during the follow-up time. Various factors affecting the outcome will be discussed.

Conclusion: The long-term treatment results of RF surgery of the SP seem to be suboptimal. The assessment of the treatment results is mandatory and must be done systematically to obtain new information for patient counseling and development of snoring management.

Keywords: RF surgery of the soft palate, snoring, obstructive sleep apnea, long-term outcome.

PS29 // SNORING AND SLEEPING // Snoring and obstructive sleep apnea
Long-term outcome of interstitial soft palate radiofrequency surgery for habitual snoring is disappointing
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PS30 // SNORING AND SLEEPING // Snoring and obstructive sleep apnea
International communication patterns in obesity-related sleep apnea in childhood and adolescence
Maria Milkov, Plamen Nedev (Bulgaria)
Prof. Paraskev Stoyanov Medical University of Varna

Obesity is a predisposing factor for sleep apnea and obstructive sleep apnea syndrome while the latter, on its part, can worsen obesity because of sleep and metabolic derangement. The purpose of the present communication is to analyze the dynamics of the international scientific communication in the socially significant field of sleep apnea in children and adolescents in relation to obesity.

Our results convincingly demonstrated a dramatic growth of the number of the abstracted publication, journals containing them, countries of authors, languages of publications although these trends were reflected to a different extent in the single data-bases. There were 832 abstracted publications in Scopus (in 1984-2011), 733 in PubMed (in 1982-2011), 706 in MEDLINE (Wok) (in 1991-2011) and 456 - in WoS (in 1990-2011). In PubMed, there were 17 papers in 15 journals in 1982-1986 but 92 papers in 56 journals in 2011 only. A total of 401 papers were cited at least once. H-index was high - of 57 arguing of the prestige of the topic worldwide.

It could be concluded that internationalization of science and effective interdisciplinary collaboration could overcome the still significant stratification at regional and national level and contribute to the solving of this severe pathology in childhood, adolescence, and later life.

Keywords: obstructive sleep apnea, obesity.

PS31 // SNORING AND SLEEPING // Snoring and obstructive sleep apnea
Correlation between the physical findings and symptoms of OSAS patients and the disease severity
Alexandre Scalli Mathias Duarte, Laí–za Araçáio Mohana Pinheiro, Priscila Leite da Silveira, Vanessa Gonçalves Silva, Alexandre Guimarães Caixeta, Guilherme Machado de Carvalho, Ivan Sens Cardoso Macedo, Eduardo George Batista de Carvalho, Arthur Menino Castilho, Edison Zancanella, Jorge (Brazil) State University of Campinas

OBJECTIVE: Correlate the physical findings, symptoms, comorbidities with the Apnea-Hypopnea Index (AHI).

MATERIALS AND METHODS: We analyzed 350 medical records from patients evaluated in the Sleep Disorders Ambulatory, Discipline of Otorhinolaryngology, Head and Neck Surgery, University of Campinas (UNICAMP), from June 2007 to May 2012 and excluded those incomplete. Patients were divided into 4 groups according to the (AHI): snoring (group 1), mild (group 2), moderate (group 3) and severe (group 4). We analyzed the following variables: age, sex, body mass index (BMI), body surface area (BSA), body mass index (BMI), neck circumference (NC), degree of tonsils, Modified Mallampati Score (MM) and Friedman score. Data were statistically analyzed.

RESULTS: A total of 249 patients were evaluated, 129 men and 120 women, mean age 50.9 years. 28 patients had snoring, 45 mild sleep apnea, 73 moderate sleep apnea and 103 severe sleep apnea. Hypertension was more prevalent in severe OSA (p = 0.045). BMI, CP, MM and Friedman scores were higher with the worsening AHI (p).

Keywords: Sleep Apnea Syndromes, Hypertension, Physical Analysis, Overweight

PS32 // SNORING AND SLEEPING // Snoring and obstructive sleep apnea
OSAS severity and cephalometric correlation
Alexandre Scalli Mathias Duarte, Laí–za Araçáio Mohana Pinheiro, Priscila Leite da Silveira, Vanessa Gonçalves Silva, Alexandre Guimarães Caixeta, Guilherme Machado de Carvalho, Ivan Sens Cardoso Macedo, Eduardo George Batista de Carvalho, Arthur Menino Castilho, Edison Zancanella, Jorge (Brazil) State University of Campinas (UNICAMP)

The Obstructive Sleep Apnea Syndrome (OSAS) has high prevalence in the adult population. Cephalometric measurements can be a valuable method for OSAS patients evaluating, since it is known the difficulty for the airway obstruction site location and, therefore, the difficulty to the appropriate treatment indication. OBJECTIVE: Correlate cephalometric measurements with the Apnea-Hypopnea Index (AHI).

MATERIALS AND METHODS: We analyzed the cephalometric measurements from patients evaluated in the Sleep Disorders Ambulatory, Discipline of Otorhinolaryngology, Head and Neck Surgery - University of Campinas (UNICAMP), from June 2007 to May 2012 and excluded those incomplete. Data were statistically analyzed.

RESULTS: There were analyzed a total of 96 patients, 45 men and 51 women, mean age of 50.3 years. 11 patients had snoring, 20 had mild apnea, 26 had moderate apnea and 39 had severe apnea. The values of the SNA, the SNB, the PAS and PNSP showed no statistically significant correlation with AHI. CONCLUSION: We found no correlation between cephalometric measurements and OSAS severity.

Keywords: Sleep Apnea Syndromes, Cephalometry, Severity of Illness Index

PS33 // SNORING AND SLEEPING // Snoring and obstructive sleep apnea
The OSAS endoscopic and oroscopic findings and the severity apnea-hypopnea correlation
Alexandre Scalli Mathias Duarte, Laí–za Araçáio Mohana Pinheiro, Priscila Leite da Silveira, Vanessa Gonçalves Silva, Alexandre Guimarães Caixeta, Guilherme Machado de Carvalho, Ivan Sens Cardoso Macedo, Eduardo George Batista de Carvalho, Arthur Menino Castilho, Edison Zancanella, Jorge (Brazil) State University of Campinas (UNICAMP)

BACKGROUND: Polysomnography is the gold standard for diagnosis of Obstructive Sleep Apnea (OSAS), however, some studies have been conducted in an attempt to find clinical predictors for the diagnosis of OSA in the absence of polysomnography. OBJECTIVE: Correlate endoscopic and oroscopic examination of the upper airway with the apnea-hypopnea index (AHI).
**METHODS:** We analyzed 350 medical records from patients evaluated in the Sleep Disorders Ambulatory, Discipline of Otorhinolaryngology, Head and Neck Surgery, University of Campinas (UNICAMP), from June 2007 to May 2012 and excluded those incomplete. Patients were divided into 4 groups according to the (AHI): snoring (group 1), mild (group 2), moderate (group 3) and severe (group 4). We analyzed the following variables: age, sex, size of tonsils, the Mallampati and Friedman scores, nasal obstruction, changes of the soft palate, increased tongue base, lingual tonsil hypertrophy, signs of reflux. Data were statistically analyzed. RESULTS: A total of 228 patients were evaluated, 117 men and 111 women, mean age 50.9 years. 29 patients had snoring, 44 mild apnea, 63 moderate sleep apnea and 92 severe apnea. Mallampati and Friedman scores were progressively higher with worsening of AHI, and this data was statistically significant (p).

**RESULTS described in this poster were obtained with support of Grant IGA MZ CR NR13505.**

**Keywords:** major salivary glands, sialendoscopy, benign obstruction disease

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**PS34** // SNORING AND SLEEPING // Snoring and obstructive sleep apnea

**Paediatric Obstructive Sleep Apnoea and Quality of Life**

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Department of Paediatric Otolaryngology, Royal Hospital for Sick Children, Yorkhill, Glasgow.

Obstructive sleep apnoea (OSA) has a prevalence of around 1.8% in the paediatric population. The condition can be difficult to diagnose clinically and sleep studies are widely used as a diagnostic tool. It is accepted that OSA can result in neurodevelopmental problems and have a negative impact on quality of life. OSA is almost always caused by adenotonsillar hypertrophy in the paediatric population and adenotonsillectomy is the recognised treatment. All patients had a preoperative sleep study and parents completed a postoperative GCBI questionnaire. The aim of the study was to determine if a correlation exists between the severity of the preoperative sleep study and postoperative quality of life. 141 patients who underwent adenotonsillectomy for OSA in a tertiary referral centre for paediatric ENT during a two year period were included in the study. The response rate was 33% (46 patients: 30M;16F). The average age was 3.75. The number of patients with one or more comorbidity was 20 (43%). There was an improvement in QOL in 96% (44/46) of patients. There was no correlation between the number of dips/hour (>4% SpO2) in the sleep studies and QOL improvement (p=0.5). We have demonstrated that surgical treatment of OSA improves QOL. However, there is no direct correlation between the severity of the preoperative sleep study and improvement in QOL following surgery. Adenotonsillectomy improves quality of life in children with OSA regardless of severity of preoperative sleep study.

**Keywords:** Obstructive sleep apnea, sleep study, quality of life

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**PS35** // SWALLOWING // Salivary glands

**Comparison of the x-ray sialography, ultrasound and sialendoscopy results in benign salivary gland obstruction diagnostics**

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ENT Department, University Hospital Ostrava

**OBJECTIVE:**
Benign obstruction disease is the most common disorder affected major salivary glands. In its diagnostics are used ultrasound, computer tomography and relatively new method “sialendoscopy. The sialography isn’t used as an essential diagnostic method currently.

**PATIENTS AND METHOD:**
Twenty-one patients suffered from recurrent salivary gland swelling were included in the study. The x-ray sialography, ultrasound and finally diagnostic sialendoscopy were used in diagnostics of these patients. The results of sialography and ultrasound of the affected glands were compared to the final sialendoscopic results. The sensitivity, specificity and accuracy of both methods were determined.

**RESULTS:**
The sialography were better in diagnostics of the ductal stenoses. Its sensitivity in a recurrent salivary gland swelling diagnostics was 75%, specificity 60% and accuracy of the method of 71%. The ultrasound was better in diagnostics of the patients with sialolithiasis. The sensitivity, specificity and accuracy of this method were 47%, 60% and 52%, respectively. The sialendoscopy was used as a comparative method because its sensitivity in the salivary duct pathology is 100% and the accuracy the same.

**CONCLUSION:**
The sialography seems to be better in diagnostics of the ductal stenoses than ultrasound. It has still determinate position in a salivary gland diagnostics.

**Keywords:** Combined approach, sialendoscopy

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**PS36** // SWALLOWING // Salivary glands

**Mylohyoid boutonnière: an unusual neck mass origin**
Laura Samarã, Píñol, Elena Rioja Peñaranda (Spain)
Hospital Parc Tauli Sabadell

The mylohyoid muscle is an anterior suprahyloid muscle that forms the floor of the mouth, and separates the sublingual space from the submandibular space. Usually considered as a continuous muscle, sometimes an anterior-mid portion defect known as “mylohyoid Boutonnière” can be seen. Defects or Boutonnière res in this muscle have a high prevalence (from 30% to 80%). Defects are generally not visible in the thicker posterior third of the muscle. They can contain fat, blood vessels (or both) and accessory salivary tissue. There are only a few reported cases that specifically describe herniation of the proper sublingual glands through mylohyoid defects. If the mass is not big and there is no complication on the defect, no surgery is indicated.

**CASE REPORT:**
A 39-year old female was referred to our ENT outpatient clinic to evaluate an intermittent left cervical muscle spasms and a flashing painless left submandibular mass with unspecified pharyngeal discomfort. The patient denied any other relevant symptoms and had no history of prior head and neck surgery or cancer. The ENT examination was normal. A CT-scan was performed, and it showed an asymmetry in the oral cavity with occupation of the left sublingual space, so a MRI was carried out, revealing a Boutonnière defect in the left mylohyoid muscle, with sublingual gland herniation.

Due to the mild patient symptomatology, no aggressive treatment was proposed, only observation.

**Keywords:** Mylohyoid Boutonnière re; Neck mass; sublingual gland

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**PS37** // SWALLOWING // Salivary glands

**Combined endoscopic and external approach for extraction of impacted stones of the parotid gland**
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**INTRODUCTION:**
Sialoliths are a common cause for salivary gland obstructive disease. Minimally invasive techniques such as sialendoscopy are the basis for accurate diagnosis and findings-specific therapy that allows preserving gland-functions. In case of impacted stones of the parotid gland, a combined endoscopic and external approach for extraction of the stone might be beneficial.

**METHODS:** We describe the case of a 60 year old man with recurrent swelling of the left parotid gland. The clinical examination showed no significant alteration. Ultrasound imaging revealed an intraparenchymal concrescent of 3 x 4mm in the left parotid gland.

**RESULTS:**
Sialendoscopy was conducted, but the stone failed to be extracted. Combined endoscopic and external approach for stone extraction consecutively followed and the stone was revealed. Microscopic duct repair and stenting of the main duct was performed.

**CONCLUSIONS:**
Stones especially large ones of the salivary glands are challenging. The combined approach is a minimally invasive technique which can reduce the number of salivary gland removals.

**Keywords:** Combined approach, sialendoscopy

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Patient-reported outcome of dysphagia and globus three years after the treatment “a clinical survey”

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Patient-reported outcome of dysphagia and globus three years after the treatment “a clinical survey

Aim of the study To evaluate the present status of patients treated for dysphagia or globus sensation in Helsinki University Hospital, Department of Otorhinolaryngology “Head and Neck Surgery in year 2009.

Materials and methods A questionnaire concerning present symptoms, subjective outcome and potential visits to other health care units was sent three years after the primary visit to all the patients treated in 2009 for dysphagia or globus (n=487). Questionnaires were received from 40 % (n=196) of the patients (median age 63 (range 21-91), 57 % (n=112) were females).

Results Nineteen percent (n=37) of the patients were asymptomatic, whereas in 24 % (n=48) symptoms were relieved. Unchanged or worse symptoms reported 26 % (n=50) of the patients, respectively. Nine percent (n=18) had varying symptoms. The rest of these data were deficient and not included. After visiting our clinic 82 % of the patients had not contacted any healthcare units because of dysphagia or globus.

Conclusion Three years after the primary visit half of the patients treated for dysphagia or globus were asymptomatic or their symptoms were relieved, whereas in 11 % the present situation was worse. The latter patient group might benefit from further medical examinations. The study continues by surveying the case records to improve our clinical investigation and treatment strategies.

Keywords / dysphagia, globus, subjective outcome

Minor Salivary Gland Pleomorphic Adenoma
Ivo Miguel Moura, Carolina Durães, Inês Palma Delgado, Marta Cardoso; João Pedro Leandro; Rui Patrício; Gabãêo Veiga (Portugal)
Hospital Professor Dr. Fernando Fonseca, EPE - Portugal

Pleomorphic adenoma is a benign mixed tumour of the salivary glands. The tumour is characterised by proliferation of epithelial and mesenchymal cells surrounded by a fibrous capsule usually with pseudopod extensions to the surrounding tissues. It can be found in the major and minor salivary glands. Parotid gland is the most commonly affected site. Less frequently, it can be found in the minor salivary glands of the palate and lips. The benign mixed tumours have potential for malignant transformation requiring a long follow-up. This diagnosis is complex and the histopathological analysis is essential. The treatment for the pleomorphic adenoma is surgical excision.

The authors report a case of a palate pleomorphic adenoma in a 38-year-old female patient.

Keywords / salivary; glands; pleomorphic; adenoma; palate

Surgical treatment of the cervical osteophytes causing severe dysphagia and aspiration
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General Hospital Zadar

Osteophytes of the cervical spines are found in 20-30% of the elderly patients. Smaller osteophytes are mostly asymptomatic but larger ones can cause swallowing difficulties, pain or neck stiffness. In the present case we describe a 79 year old male patient admitted at the ENT Department of the General Hospital Zadar due to the progressive swallowing difficulties, cough, aspiration and dysphonia. Patient symptoms lasted four years prior to admittance. After thorough clinical and radiological evaluation (MSCT showed cervical spine osteophytes compressing the larynx and oesophagus and barium oesophagograms showed retention of the barium in the oropharynx and bronchial aspiration) the osteophytes were surgically removed followed by myotomy of the cricopharyngeal muscle and larynx suspension. Postoperative period was uneventful with no swallowing difficulties aspiration or dysphonia. Aspiration and dysphagia in elderly patients with cervical osteophytes could be a life threatening condition and require surgical intervention. In addition to surgical removal of the osteophyte in order to achieve better operative outcome we emphasize the need of the cricopharyngeal muscle myotomy and larynx suspension.

Keywords / cervical osteophytes, dysphagia, surgery
Conclusions:
By following the steps, we suggest that the risk of facial nerve palsy can be reduced to a minimum.
Our main goal is to generalize this strategy in order to minimize the risk of complications in this type of surgery.

Keywords // PAROTIDECTOMY, COMPLICATIONS

PS43 // SWALLOWING // Swallowing
Forester's Disease of the Cervikal Spine Causes Dysphagia - A Case Report
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Introduction: Forester's Disease leads to osteophyte formation and hyperostosis of the spine. The diagnosis is made by radiological imaging. 20 "“ 30 % of the European population older than 65 years are affected. The disease occurs twice as much in men than in women. Patients often complain about dorsal pain and apraxia. The involvement of the cervical spine is unusual. Therapeutic strategies for forester's disease include physiotherapy and analgesia. In a few cases a surgical intervention is required. Methods: We report on a patient (83y) who suffered from severe dysphagia with the inability to swallow and apraxia of the cervical spine. Consecutively the patient lost weight. Flexible endoscopy of the pharynx revealed a retropharyngeal bulging. The following X-ray of the cervical spine identified a bridging spondylophyte formation between cervical vertebra 2 to 6. In cooperation with the department of neurosurgery a surgical removal of the ventral osteophytes of the cervical spine via a transcervical Smith-Robinson incision was performed.

Results: The patient is able to swallow free of complaints eight months after intervention. Conclusion: The diagnosis of dysphagia requires X-Ray of the cervical spine. In case of clinically evident Forester's disease, the possibility of cervical spine caused dysphagia should be considered as differential diagnosis. The surgical treatment of Forester's disease of the cervical spine can improve dysphagia and thus leading to restitution.

Keywords // Forester's Disease, Dysphagia, Smith-Robinson incision

PS44 // SWALLOWING // Swallowing
Dysphagia in older people
Manuel Rodríguez-Paradinas, Natalia Pulido-Fonsesca, Teresa Rivera-Rodríguez (Spain)
Hospital Universitario Príncipe de Asturias

INTRODUCTION: The anterior cervical osteophytes, are an increasingly common condition due to the increase in life expectancy and its relationship to degenerative arthritic condition.

MATERIAL AND METHODS: We report the case of a patient of 80 years referred to our department for two years symptoms of dysphagia for solids and mixed consistency foods, with foreign body sensation and frequent coughing while eating. As relevant history the patient had general arthritis.

RESULTS: A complete dysphagia study was performed. The videodenscopy revealed an extrinsic compression of the posterior wall of the pharynx. The videofluoroscopy showed a impaired safety of swallowing, aspiration and coughing, we also found an enormous osteophite at C5. A CT scan was requested, a calcification of the anterior and posterior paravertebral ligaments with marginal osteophytes C3 to C5 was demonstrated. The final diagnosis was osteophygeal dysphagia due to a mechanical obstruction. The treatment was to change the patient's diet to assess the safety of swallowing. He denied the surgery.

CONCLUSION: Not all patients with cervical osteophytes develop symptoms such as dysphagia. This seems to be related to the location of osteophyte. If osteophyte is large, it produces a local inflammatory reaction that may cause the symptoms. Dysphagia due to cervical extrinsic compression is an entity to be considered in the differential diagnosis of this disease in older patients. Treatment may be conservative or surgery.

Keywords // dysphagia, videofluoroscopy

PS45 // SWALLOWING // Salivary glands
Intraoral approach for removal of sialolith in submandibular gland

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Centro Hospitalar e Universitário de Coimbra

Sialolithiasis is the most common disease of salivary glands and is caused by the presence of a salivary calculus inside the duct or the salivary gland. It is characterized by swelling, pain and absence of salivary drainage. The submandibular gland is affected in 80-90% of the cases, followed by parotid in 5-20%, sublingual in 1-2% and rarely minor salivary glands. It can occur in any age and has a predilection for male patients. The authors report two cases of sialolithiasis of the submandibular gland after searching for the source of swelling in the submandibular region. The diagnosis was confirmed by clinical and radiographic examinations. The treatment consisted in removal of the sialolith by intraoral approach: one with 8 mm and the other of 19 mm. The choice of treatment depends on some variables: status of the patient, surgeon experience, affected gland, size, shape and localization of the calculus. This 2 cases show that a conservative surgical approach is effective in sialolithiasis treatment, even in the case of a giant calculi. The prognosis is good and there is generally no recurrence of the condition.

Keywords // sialolithiasis, intraoral approach
between August 2009 and January 2011 were retrospectively reviewed. VFSSs were analyzed for dysphagia, laryngeal penetration, and tracheal aspiration. All VFSSs were performed using liquids. Of 61 patients analyzed, 53 (86.9%) were diagnosed with oropharyngeal dysphagia. Of these, 16 (30.2%) had a delay in pharyngeal phase initiation (trigger), 24 (45.3%) had laryngeal penetration, 4 (7.5%) had bronchopulmonary aspiration, and 9 (17.0%) had both laryngeal penetration and bronchopulmonary aspiration. Among infants (29 days-24 months of age; n=53), 92.5% had dysphagia. Of these, 95.2% had an early diagnosis (between 29 days and 12 months of age). These findings indicate a high rate of oropharyngeal dysphagia in children without apparent risk factors for this disorder and a correlation between dysphagia and chronic respiratory symptoms without an identifiable cause, making it necessary to include dysphagia in the differential diagnosis of these patients.

Keywords // Dysphagia. Videofluoroscopic swallowing study

PS48 // SWALLOWING // Swallowing

Videofluoroscopy in a sample children: findings of a public hospital in Brazil
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This study aims to describe the profile of the pediatric population submitted to videofluoroscopy of swallowing in a public hospital in Porto Alegre / RS between the years 2009 and 2011. This is a retrospective analysis of all findings of 259 videofluoroscopy exams performed from August 2009 to January 2011. The application used for data analysis was EXCEL Â® version 2010 and Statistical Package for Social Sciences for Personal Computer (SPSS / PC), version 17.0 for statistical analysis. The significance level adopted was 5%. The videofluoroscopy findings analyzed in this study were: dysphagia, laryngeal penetration and tracheal aspiration. The food consistencies used in the evaluation were pasty, semi-solid and solid, and for liquids, nectar, honey and pudding. These were prepared and mixed with barium sulfate and then administered according to the age of the child, eating habits and therapeutic indication. The videofluoroscopy showed that 89.6% of patients were diagnosed with oropharyngeal dysphagia. Of these, 47% had laryngeal penetration and 34.5% had bronchopulmonary aspiration during the execution of the test. Twenty-seven (10.4%) had normal swallowing during the exam. This study shows the high prevalence of oropharyngeal dysphagia in the studied population, also pointing the occurrence of this disorder in poorly studied groups and confirming what the literature widely describes in groups with a risk factor for dysphagia.

Keywords // Deglutition Disorders, Fluoroscopy, Deglutition, Pediatrics
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