**0138 / A RETROSPECTIVE REVIEW OF REVISION MASTOID SURGERY**

**Introduction:** The primary objective is to assess the proportion of patients with a safe dry ear post-operatively following revision mastoid surgery. Other post operative complications will also be recorded.

**Methods:** A retrospective review of case notes of all patients undergoing revision mastoid surgery under the care of one consultant between July 2002 and January 2009 was undertaken. Information was recorded using the Minimum Data Set established by the Royal College of Surgeons.

**Results:** A total of 78 patients were identified undergoing 79 operations with an average age of 32 years (range 9–74 years). There were 55 revision operations, 10 re-revisions and 14 mastoid obliterations. Post operatively there were 2 cases of recurrent cholesteatoma and 5 patients had persistent ear discharge (overall failure rate of 9%). Other post operative complications include 2 keloid scars, 4 wound infections, 3 temporary episodes of post operative vertigo, 3 BIPP allergic reactions and 1 haemorrhage causing a return to theatre.

**Conclusions:** Revision mastoid surgery has been shown to produce good results in the hands of one surgeon with regards to creating a dry safe ear. However, other post operative complications particularly regarding the wound were higher than expected.

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**1182 / A REVIEW OF 89 REVISION STAPES SURGERIES FOR OTOSCLEROSIS**

**Objectives:** The aim of this study was to identify the causes and the audiometric results of revision surgery following stapedotomies and stapedectomies.

**Patients and Methods:** We retrospectively reviewed a series of 89 revisions after surgery for otosclerosis between 1993 and 2008. Intraoperative findings, causes of failure, and pre- and postoperative audiometric results were noted retrospectively.

**Results:** The leading causes of failure found intraoperatively included dislocated prosthesis and necrosis of the long process of the incus. The average postoperative air-bone gap was 13dB. Closure of the air-bone gap to within 10dB was achieved in 52% of patients.

**Conclusion:** Stapes revisions had less satisfactory results compared with primary procedures in this series. However, certain precautions during initial surgery should decrease the number of stapes surgery revisions.

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**1100 / ABNORMAL AUDITORY PERCEPTION IN CHILDREN WITH VOCAL FOLD NODULES AND HYPERFUNCTIONAL DYSPHONIA**

**Abstract:** The authors assumed that abnormal auditory perception may contribute to improper voice production. 83 dysphonic children aged 6–13 years old have been included in the study. All children had normal peripheral hearing. Listening ability and auditory laterality have been tested with the use of A. Tomatiss procedure including evaluation of listening ability assessed in air and bone conduction, pitch discrimination, localisation of sounds applied to bone conduction path, and assessment of auditory laterality. In majority of patients, left-sided auditory laterality has been found. Examination of listening ability revealed disturbed perception of own voice, which may lead to improper voice self-control.

Those findings may support the assumption that improper voice emission may be result of disturbances of listening.

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**0213 / ACOUSTIC ANALYSIS OF VOICE IN SINGING AND NO SINGING CHILDREN**

**Introduction:** Singing is the one of most popular and helpful creation for children. Therefore voice analysis should be very important for appreciation of voice quality.

The goal was to compare voice acoustic parameters of singing and no singing children in premutation age.

**Material:** The present investigation was based on the data obtained from 98 healthy children aged between 6 and 11 years divided into two groups: 51 (22 boys and 29 girls) were singing children (group 1) and 47 (22 boys and 25 girls) were no singing children (group 2). The mean age was 8.5 years old in group 1 and 8.2 years old in group 2.

**Methods:** Children were examined by acoustic analysis of voice with “The LinguWAVES” including the measurement of the maximum phonation time (MPT), Jitter, fundamental frequency (Fo), Dysphonia Severity Index (DSI), recording of speaking and singing voice profiling with determination of frequency and dynamic range.

**Results:** We didn’t detect any correlation between acoustic voices characteristics and the age of children. But there were significant differences between the groups for several vocal quality parameters. In group 1 children voices were characterized with longer MPT (10.3 sec.) and higher DSI (-0.1) than in group 2. In no singing children we found shorter MRT (8.3 sec.) and more negative DSI (-1.2). Singing children had significant wider voice range than no singing girls (329.3 Hz and 267.5 Hz). Fo in singing children was lower than in no singing children (274.6 Hz and 294.8 Hz). But there was not significant difference of speaking profile and dynamic range between groups (28.6 dB and 26.7 dB) as well as Jitter in singing girls and all no singing children (1.2% and 1.3%). However singing boys had lowest Jitter (0.6%).
**Conclusion:** The acoustic parameters in children before mutation don't depend on the age. Voice of singing children defines lower fundamental frequency, higher dysphonia severity index, wider singing profile and longer maximum phonation time than voice of no singing children. Nevertheless vocal abilities of children are limited.

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**0789 / ADVANTAGES OF MODIFIED SURGICAL TECHNIQUE OF TOTAL LARYNGECTOMY**

**Introduction:** Total laryngectomy is well established surgical technique for laryngeal removal and reconstruction. It is accompanied with acceptable level of postoperative complications. Many surgeons do hesitate to interfere in any aspect of this technique. We estimated that every surgical achievement can be improved during the time. For that reasons we proposed modifications founded on experience and modern concepts of wound healing.

**Aim:** Aim of this presentation is to present modifications of surgical technique of total laryngectomy with it advantages compared with old technique.

**Material and methods:** We analyzed 49 patients operated with modified technique in comparison with 49 patient operated with classic technique. We used anamnestic data, clinical findings and standard statistic tests.

**Results:** Modified surgical technique shorten hospital stay and have less postoperative complications.

**Conclusions:** Modified surgical technique of total laryngectomy is safe procedure with low complication rate. It decrease patient morbidity and hospital stay.

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**0523 / AN INTEGRATIVE (HOLISTIC) APPROACH TO THE DIAGNOSIS AND TREATMENT OF ALLERGY COMBINED WITH IN-VITRO ALLERGEN-SPECIFIC TESTING AND SUBLINGUAL IMMUNOTHERAPY**

**Abstract:** There are many approaches to the diagnosis and treatment of allergic disease described in the marketplace, each with their intrinsic benefits and limitations. Over 25 years of private practice, we have developed a uniquely Integrative (East-West) approach to the diagnosis and treatment of allergy. Each allergy protocol has its inherent benefits and limitations but when you combine holistic and integrative anti-aging principles, a comprehensive in-vitro testing methodology (Phadia ImmunoCAP), sublingual immunotherapy (SLIT) along with an inter-disciplinary approach, the overall results of treatment are enhanced. We describe a unique practice approach with superior benefits when compared to other allergy testing and treatment protocols when offered alone.

**Learner objectives:** Describes the Components of our Integrative Approach to Allergy Testing and Treatment. Describes the Benefits of an Inter-Disciplinary Approach to Allergy. Describes the value of a Holistic Approach to Allergy Diagnosis and Treatment.

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**0950 / ANALYSIS OF DEVICE NONUSER AMONG COCHLEAR IMPLANT RECIPIENTS**

**Object:** Cochlear implants (CIs) have proven to be very effective in the management of severe/profound sensorineural hearing loss. The subsequent nonuse of a CI is a disappointing outcome. The objective of this study was to analyze the characteristics of device nonuser among patients who have received cochlear implants.

**Material and methods:** Retrospective review of medical records was performed about 1029 patients who underwent cochlear implantation at Seoul national university hospital from Nov. 1988 to Jun. 2010. Among them, 173 patients who were not followed up recently were interviewed by telephone-questionnaire.

**Results:** A total of 23 (2.2%) patients (10 adults and 13 children) were identified nonusers. The mean age at CI operation was 18.5 years old. The main reason was deficiency of speech perception (n=13) and other reasons included device problems (n=6), loss of device (n=1), comorbid illness (n=1). The most common mode of communication in cochlear implant nonusers was sign language (n=10). The individual characteristics of patients will be presented.

**Conclusion:** Appropriate selection of cochlear implantation candidate is needed based on the predicting factors related with cochlear implantation outcomes to prevent the device nonuse postoperatively.

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1413 / OTOSCOPE VS. HEAD MIRROR, A COMPARISON OF COMMONLY USED DIAGNOSTIC TOOLS

Background: The purpose of this study was to compare the efficacy and usability of the otoscope and head mirror in a controlled environment.

Material and methods: We asked 51 medical students to examine the tympanic membrane of an anatomically accurate model of the auditory canal and tympanic membrane using both the otoscope and the head mirror. Students were told to write down a number that was printed on the tympanic membrane and the colour of the tympanic membrane. The time needed for this exam was measured and then the student graded the ease of use for both methods and the confidence in perceived colour and number.

Results: The average time needed for the otoscope exam was significantly lower than the average head mirror exam time (15.033 seconds vs. 32.929 seconds; p<0.001). The number misidentification rate was 25.5% for the otoscope and 31.4% for the head mirror (p=0.661, Fisher’s exact test) while the colour misidentification rate was 7.8% for the otoscope and 33.3% for the head mirror (p<0.001). The confidence in numbers and colour seen was similar for both methods (average grade: 8.667 vs. 7.980; p=0.181, Mann-Whitney test) while the students found the otoscope to be significantly easier to use than the head mirror (average grade: 9.136 vs. 7.039; p<0.001).

Conclusion: The otoscope is easier and faster to use and more accurate, in controlled environments, than the head mirror.

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2102 / OTOTOXICITY OF GENTAMICIN AS A RISK FACTOR FOR HERING LOSS IN NEWBORNS

Introduction: The aminoglycosides have caused throughout history, ototoxic effects as well as nephrotoxicity. Currently, the use of gentamicin is considered a risk factor for hearing loss in newborns, in programs for early detection of hearing loss.

Material and methods: We reviewed 35 children, newborns treated with gentamicin for a least a week and a maximum of 2 weeks, at doses of 5 mgr/Kg/day, and these children had no other risk factor for hearing loss. These children were studied by performing brainstem evoked potentials.

Results: Not detected any cochlear hearing loss in the 35 children studied. Only 4 of them, transmitted hearing loss was detected after the completion of brainstem auditory evoked potentials them all.

Conclusions: The results suggest that the use of gentamicin at doses of 5 mgr/Kg/day, over a period of time between 7 and 14 days, not a significant risk of hearing loss in newborns, that are not associated with other risk factors for hearing loss. In longer treatments, the risk of hearing loss that is attributed to use of gentamicin increases.

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0214 / OUR EXPERIENCE OF THYROPLASTY USING THE TITANIUM VOCAL FOLD MEDIALIZATION IMPLANT

Introduction: Unilateral vocal fold paralysis (UVFP) is a known complication of thyroid surgery. Today two most popular surgical techniques that improve patients’ voice quality and quality of life are intracordal injection and medialization thyroplasty. The goal was to study dynamic the voice quality before and after medialization thyroplasty using the titanium vocal fold medialization implant (TVFMI).

Material and methods: 16 patients from 38 to 58 years old (seven women and nine men) underwent external medialization thyroplasty by using TVFMI. Prior to and after surgery videostroboscopy, perceptual voice evaluation with GRBAS scale, acoustic analysis of voice with “The lingWAVES” and patient self-perception analysis of quality of life according Voice Handicap Index (VHI) were performed.

Results: Only one patient did not any effect. In videostroboscopy, 15 patients showed an almost complete glottal closure after thyroplasty. They reported on subjective improvement of voice, swallowing and breathing functions. The statistical analysis revealed a significant improvement in the perceptual voice parameters according GRBAS scale (p<0.001). All acoustic voice parameters (maximum phonation time, Jitter, fundamental frequency, Dysphonia Severity Index, maximum sound pressure level, voice range, dynamic range) were significantly improved (p< or =0.001). The VHI showed positive impact thyroplasty to quality of life in patients. After six months these patients demonstrated steadfast effect.

Conclusions: Our experience showed high efficiency TVFMI in treatment of unilateral vocal fold paresis as individually adjustable device for thyroplasty. Acoustic voice analysis is an excellent and easy instrument for documentation of objective surgery results.

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