

### A0018: Tympanomastoidectomy: Microscopic or Endoscopic

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**Introduction** Microscopic surgery is the gold standard for surgeries of the middle ear, mastoid, and lateral skull base. Microscopic ear surgery is performed at a very high level, with very good results with respect to control of pathologies and hearing function. Although endoscopic ear surgery is still in its infancy, it is gaining increasing attention internationally. The first reason for this increasing interest is the patients' wish for minimal invasive surgery to avoid an external incision.

**Aim** To study whether endoscopic ear surgery is safer and less invasive than conventional tympanomastoid surgery using an operating microscope.

**Materials and Methods** There are 100 patients who underwent endoscopic ear surgery and another 100 patients in whom microscopic tympanomastoidectomy was performed by the same surgeon. The two surgical techniques were compared with respect to disease clearance from middle ear and mastoid, the time taken for operation, postoperative hearing results, postoperative complications, and postoperative pain.

**Results** Here, no differences in operating time or postoperative graft take up and hearing between the endoscopic and microscopic groups were observed. There was very little postoperative pain in the endoscopic group. In endoscope group, disease clearance was difficult when mastoid tip was involved. In microscopic group, disease clearance was difficult when sinus tympani was involved.

**Conclusion** In tympanomastoidectomy, microscope and endoscope compliment to each other. With combined use of microscope and endoscope, we can attain good results in tympanomastoidectomy with minimal morbidity.

### A0019: Endoscopic Exploratory Tympanotomy: Our Experience

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**Aim** To enlist and analyze the middle ear pathologies in patients with conductive hearing loss with intact tympanic membrane by endoscopic exploratory tympanotomy.

**Materials and Methods** In this retrospective study, 88 patients in age group between 14 years and 50 years, with hard of hearing were evaluated. Clinical examination, pure tone audiometry and tympanometry were done for all patients. Patients with conductive hearing loss with intact tympanic membrane with no previous history of ear discharge were taken up for endoscopic exploratory tympanotomy, and operative findings noted.

**Results** In our study, most common middle ear pathology was otosclerosis (69%). Other middle ear causes for conductive hearing loss were tympanosclerosis, mucosal adhesion bands, and middle ear anomalies. Ten patients underwent revision stapedotomy, while seven patients had normal middle ear findings despite conductive hearing loss. Other anatomical abnormalities posing challenge for stapedotomy

in confirmed otosclerosis included dehiscent fallopian canal and dehiscent high-lying jugular bulb.

**Conclusion and Clinical Significance** The study provides us insight into various causes of conductive hearing loss behind an intact tympanic membrane with no previous history of ear discharge. The advantage of endoscopic exploratory tympanotomy was clear view of middle ear anatomy and aiding as an excellent teaching tool.

### A0020: Cholesteatoma of the External Auditory Canal: Review of Staging and Surgical Strategy

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**Introduction** EACC is insidious in nature and rare entity. There are only few case series on EACCs, and surgical strategy is not standardized.

**Objectives** (1) To elucidate etiology of EACC and cardinal features. (2) To suggest a practical staging of EACC. (3) To enumerate surgical management according to stage of EACC.

**Study Design** Retrospective study in a quaternary referral center of 31 consecutive cases of EACC.

**Results** Thirty-one patients with EACC were reviewed. Unilateral otorrhea 19 (61.2%), hearing loss 22 (70.9%), and otalgia 8 (25.8%) were cardinal symptoms. Sixteen primary and 15 secondary EACCs were treated. Bone erosion was seen in 20 cases. In the present series, stage III = 12 (38.7%), stage II = 8 (25.8%), and stage I = 11 (35.4%) underwent definitive treatment by surgery. Canalplasty with reconstruction was done in 19 cases of stages I and II. Of 12 cases in stage III, 3 cases underwent canalplasty with reconstruction. Subtotal petrosectomy was done in five cases. Intact canal wall mastoidectomy with canalplasty in two cases and radical mastoidectomy in two cases. Fascia, cartilage, muscle, and bone dust were used for reconstruction. Median follow-up period was 6 years and no recurrence of cholesteatoma was seen.

**Conclusion** EACC is a unique entity. Intraoperative and radiological findings assist in correct and practical staging of EACC. Late stage presentations of EACC are common. Definitive surgical treatment in our series avoided recurrence of cholesteatoma.

**Keywords** external auditory canal, cholesteatoma, canalplasty, subtotal petrosectomy

### A0021: Conchal Cartilage Cap for Stapes Suprastructure: A Novel Approach to Hearing Reconstruction

Vivek Kumar

**Aim** To present a newly devised method of designing conchal cartilage caps for stapes suprastructure applied for ossicular chain reconstruction in mastoid surgery and report the hearing results.

**Materials and Methods** We designed conchal cartilage caps (CCCs) to be fitted on stapes suprastructure for ossiculoplasty in cases of mastoid surgery and investigated the hearing outcome by comparing the pre- and postoperative air-bone gap (ABG) in patients who had undergone this surgery.

**Results** Patients who have undergone conchal cartilage cap ossiculoplasty for stapes suprastructure showed good hearing improvement. Postoperative follow-up of ABG for a period of 1 year in 23 patients demonstrated significant audiometrical improvement. There were no ABG of more than 30 dB and mean ABG of 20 dB was achieved for most of the cases.

**Conclusion** The technique of conchal cartilage cap for stapes suprastructure ossiculoplasty is a safe, simple, reliable, and effective procedure with an easy learning curve. Hearing results are satisfactory and comparable to other commonly applied techniques and materials. Compared with synthetic prostheses, conchal cartilage ossiculoplasty also offers better biocompatibility at no additional expenditure.

**Clinical Significance** Development of an undemanding, consistent and easily performed technique of ossiculoplasty using autologous cartilage at no extra cost provides another option in the armamentarium of an otologist for good hearing outcomes in mastoid surgery.

#### **A0022: Cochlear Implants in Auditory Neuropathy Spectrum Disorder: Role of Electrically Evoked Auditory Brainstem Responses and Serial Neural Response Telemetry**

Aanchal Aggarwal

**Objective** To evaluate the utility of neural response telemetry (NRT) and electrically evoked auditory brainstem response (EABR) in patients with auditory neuropathy spectrum disorder (ANSD)

**Methods** Four patients with ANSD who underwent cochlear implantation and usage for more than 1 year were studied. All the four patients underwent preoperative trans tympanic EABR (TT-EABR), intraoperative neural response telemetry (NRT), postoperative NRT at 3 months, 6 months, and 1-year intervals after switch-on and outpatient CI (cochlear implant) EABR testing at 1-year post switch-on.

**Results and Discussion** The authors propose a new practical classification of understanding the neural responses in relation to TT-EABR wave-form morphology and latencies. NRT and/or EABR measurements showed improvements in all the four patients. Three out of the four patients had NRTs on three or more electrodes and all the four patients had EABRs at 1 year of implant use. In addition, it was apparent that the children with better wave-form morphology on TTEABR preoperatively had better category of auditory performance (CAP) and speech intelligibility ratings (SIRs) scores at 1 year of implant use.

**Conclusions** Improvements in EABR and NRT over time with CI use indicates that electrical stimulation is a favorable scheme of auditory stimulation in ANSD patients. This also provides an objective way to monitor changes/progress in the auditory pathways after cochlear implantation.

#### **A0023: Diagnosis and Treatment of Menière's Disease: Our Experience**

Akash A. R.

**Introduction** Menière's disease is a clinical syndrome that consists of episodes of spontaneous incapacitating vertigo usually associated with unilateral fluctuating sensorineural hearing loss (SNHL), tinnitus, and aural fullness. Diagnosis is by clinically and audiovestibular tests including video nystagmography (VNG).

**Aim (1)** This study was done to determine whether video nystagmography is a valid diagnostic tool for diagnosing Menière's disease.

**(2)** To study the therapeutical effect of betahistine in Menière's disease and compare with video nystagmography.

**Methodology** Patients, presenting with vertigo, tinnitus, and fluctuating hearing loss, who come under the criteria for Menière's disease in the ENT OPD were selected. A detailed history and thorough clinical examination were done followed by PTA and video nystagmography. Those who are diagnosed with Menière's disease were treated with betahistine 48 mg for 2 weeks, and were followed-up for 2 and 6 weeks.

**Results** Thirty-five patients have been studied, all of them showed nystagmus toward the affected ear on post high-frequency head shake, hypofunction on caloric test in affected side. Twenty patients were correlated with glycerol test and PTA showing SNHL on affected side. On follow-up, 15 patients showed improvement clinically and in VNG. These tests were done on follow-up at 2 and 6 weeks to look for improvement.

**Conclusion** VNG is an excellent tool for diagnosing Menière's disease and to compare the therapeutical improvement or efficacy of treatment given.

**Clinical Significance** Menière's disease can be easily diagnosed in OPD setup with VNG, it helps in accurate and early treatment of the patient.

#### **A0024: Comparative Study of Palisade Cartilage Tympanoplasty with Temporalis Fascia Tympanoplasty in CSOM with Subtotal Perforations**

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**Objective** To assess and compare the graft acceptance rates and audiological outcomes of palisade cartilage tympanoplasty with those of temporalis fascia tympanoplasty in CSOM with subtotal perforation.

**Materials and Methods** A prospective study containing 50 patients with the diagnosis of CSOM with subtotal perforations attending the department of ENT, K. R. Hospital between January 2017 and December 2017. Patients were divided into two groups with equal number of patients in