Presenting Author: **Matthew Cox**

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Learning Objectives: To review hearing results, long-term outcomes, and complications after ossiculoplasty.

Patients: 464 patients (3-88 years of age) undergoing ossiculoplasty with tympanoplasty or tympanomastoidectomy using cartilage tympanic membrane grafts, retrograde mastoidectomy with canal wall reconstruction or mastoid obliteration techniques between 1998 and 2012. All patients had at least 1 year of clinical follow-up.

Outcome Measures: Early and late audiometric outcomes, rate of successful air-bone gap closure and tympanic graft healing, and incidence of long-term complications.

Results: Hearing results were assessed in all patients with 1 year of longer of audiometric follow-up. There was no significant difference between adults and children for early hearing results (average post-op PTA-ABG [pure tone average air-bone gap] was 18.2 dB vs. 19.6 dB, respectively; $p = 0.306$), late hearing results (average final PTA-ABG was 18.6 dB vs. 19.4 dB, respectively; $p = 0.439$), or rate of air-bone gap closure to less than 20 dB (63.1% vs. 58.0%, $p = 0.282$). Complications were assessed in patients with 5+ years of clinical follow-up. Smoking was not found to have a significant impact on hearing results, but smokers had a significantly increased incidence of complications, as compared to non-smokers (34.7% vs. 14.0%, respectively; $p = 0.0003$). Revision surgeries were required in 10.3% of patients, and half of these revisions occurred more than 5 years after the initial surgery.

Conclusions: In uncomplicated cases, hearing results remain stable in the long term following ossiculoplasty. Failures of ossiculoplasty, complications and recurrence of conductive hearing loss may occur at any time, with half of revisions occurring more than 5 years after the initial surgery.

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ID: IP028

Mastoid Obliteration – A case series review of our practice and a financial case to do more?

Presenting Author: **Paula Coyle**
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Learning Objectives: To collate a review of our experience with mastoid obliteration over the last ten years. Evaluate the cost effectiveness of mastoid obliteration in the chronically discharging ear.

Introduction: The chronically discharging ear after open mastoid surgery for cholesteatoma can be problematic to manage for the Otolaryngologis requiring numerous appointments. In the current climate of cost saving within the NHS, we must balance clinical evidence and cost. We review our practice of Mastoid obliterations in our district general hospital in the UK over the last ten years to look at both success and cost.

Methods: All the notes of patient who had mastoid obliteration over the last ten years were reviewed. The cases were found by going through the theatres scheduling records. We reviewed the preoperative, intraoperative and postoperative course of each patient. We report on our technique, the success rate of improving symptoms, audiogram changes and complications. We compare the monitory costs of the patient's preoperative versus operative and postoperative costs.

Results: There were 14 patients, six male and eight female with an mean age of 46.7years. They had been listed for mastoid obliteration due to chronically discharging ear. All mastoid cavities were obliterated with bone dust, fat and fascia lata graft. Postoperatively patients reported their symptoms had improved and some also reported quality of life improvement including confidence and embarrassment in social situations. Subjectively some patients even reported their hearing had improved and leaving a small dip in the obliterated cavity of the external auditory canal for a conventional ear-level hearing aid was a bonus for patients. Patients preoperative costs and therefore presumed continued costs, justified the operation and postoperative costs.

Conclusions: We conclude that in the correct patient group mastoid obliterations are beneficial to both the patient and the NHS.

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Cholesteatoma Decoded – Indian Scenario

Presenting Author: **Jyoti Dabholkar**

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Learning Objectives: 1. Complete eradication of disease by adequate exposure, proper saucerisation of mastoid cavity, adequate lowering of the facial ridge and wide meatoplasty are four main principles for a dry cavity. 2. Obliteration in select cases is required to create an optimum sized cavity. 3. Hearing improvement, though secondary, is vital and should be attempted if eustachian tube function allows.

Introduction: Cholesteatoma continues to pose a significant challenge to otologic surgeons, especially in developing countries. Challenges include: advanced stage with extensive spread, complications at presentation and different degrees of expertise of treating physicians. Being a tertiary care centre, we are faced with above problems and revision surgeries. This study was conducted to understand the behavior of cholesteatoma, intraoperative findings and to assess results in terms of cavity status and hearing outcome.

Materials and methods: This prospective study was conducted at KEM Hospital, India in 216 patients operated

from 2010 to 2013 by a single surgeon with 2.5 years follow-up. Patient demographics, intraoperative disease induced changes and postoperative outcomes were analyzed.

Results: Of the 216 patients, 119 had primary and 73 had secondary cholesteatoma. 24 patients were referred for residual/recurrent disease and 48 presented with one or more complications. Erosion of sinus plate was seen in 9 and dural plate in 16 cases. Sinodural angle was involved in 28, sinus tympani in 40 and facial recess in 45 cases. Facial nerve was dehiscent in 53 cases. All patients underwent canal wall down mastoidectomy as a rule. Mastoid obliteration was done in 40 cases. Hearing mechanism was reconstructed by tympanoplasty – type 3 (116), type 4 (38) and type 2 using autologous incus (32). 26 patients underwent staged procedure and 4 required cul-de-sac closure. Dry cavity was achieved by an average of 1.75 months. Recurrence was seen in 1 patient.

Conclusion: Complete eradication of disease by adequate exposure, proper saucerisation of mastoid cavity, adequate lowering of the facial ridge and wide meatoplasty are four main principles for a dry cavity. Obliteration in select cases is required to create an optimum sized cavity. Hearing improvement, though secondary, is vital and should be attempted if eustachian tube function allows. A good follow-up is always essential.

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ID: IP030

Successful early loading of a BAHA (Bone Anchored Hearing Aid) in a patient with learning difficulties

Presenting Author: **Nicholas Dawe**

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Learning Objectives: Early loading of the BAHA abutment is feasible, safe and provides evidence for a change of clinical practice to ever shorter loading times.

Introduction: BAHA placement is routinely undertaken as a single stage process. Loading is performed at an interval period – usually six days – to allow for osseointegration. We report the successful early loading of a BAHA, at four hours post-operatively, undertaken as a result of hearing loss on a background of learning difficulties in a paediatric patient with Down's syndrome and autism. Satisfactory short and long-term outcomes are reported.

Methods: Case Report.

Results: A 16-year-old male with Down's syndrome and autism underwent a left BAHA placement. A conventional hearing aid had not been tolerated by the patient. Since the age of 9, a soft-band device had been trialled and had been well tolerated.

The procedure involved single-stage placement of a 4 mm implant with 10 mm abutment, performed via the FAST technique, using a curvilinear incision.

Post-operatively the patient was agitated and it was elected to load the abutment early, at four hours, to overcome difficulties in communication.

The initial intra-operative resonance frequency analysis (RFA) stability measurement was 49 (implant stability quotient (ISQ) 65 units after correction for abutment length). Medium and long-term follow-up at 12 months confirmed maintenance of implant stability by maintained ISQ values. No local complications occurred.

Conclusions: A successful outcome following early loading of the BAHA abutment was achieved, and is considered the earliest recorded BAHA loading described in the literature. The procedure is predicated upon the use of real time RFA measurement.

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ID: IP031

Pediatric cholesteatoma surgery : results of cartilage block ossiculoplasty

Presenting Author: **Francoise Denoyelle**

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Learning Objectives: To assess the efficacy and long-term stability of partial ossicular chain reconstruction using autologous cartilage.

Objective: To assess the efficacy of partial ossicular chain reconstruction using autologous cartilage.

Design and setting: Retrospective study, Tertiary academic children's hospital.

Patients: Two hundred forty-eight children (268 ears) underwent partial ossicular chain reconstruction using a shaped block of tragal cartilage interposed between the head of the stapes and an underlay tympanic membrane reconstruction along with tragal cartilage and its perichondrium.

Main Outcome Measures: Anatomical and audiologic results were evaluated according to the American Academy of Otolaryngology–Head and Neck Surgery guidelines. X2 Tests and multivariate analysis were used for statistical evaluation.