

hearing improvement. Surgical approach included FMT placement in the direct proximity of the round window membrane. We discussed the indications, contraindications and limitations of use of Vibrant Soundbridge in this group of patients.

Results and conclusions: Direct stimulation of the round window is an alternative method of treatment in selected group of patients with hearing impairment and mild to severe destruction of the middle ear elements. In all cases subjective hearing improvement was noticed and confirmed in audiological tests. The benefits of Vibrant Soundbridge use are significant.

doi:10.1017/S0022215116002310

Free Papers (F664)

ID: 664.5

Cholesteatoma and Retraction pockets in Cochlear Implantation and their Management

Presenting Author: **Hannah North**

Hannah North¹, Simon Freeman², Deborah Mawman³, Lise Henderson³, Martin O'Driscoll³, Iain Bruce², Simon Lloyd²

¹Salford Royal Foundation Trust and Central Manchester Foundation Trust, ²Central Manchester Foundation Trust, Richard Ramsden Centre for Auditory Implants, ³Richard Ramsden Centre for Auditory Implants

Learning Objectives: Management of cholesteatoma in auditory implants Management of retraction pocket disease in auditory implants.

Introduction: Cholesteatoma is a rare condition. In the presence of an auditory implant, the principal concern is damage to the internal device either through the disease process or through surgery to remove the disease.

Methods: A retrospective analysis was performed all implant recipients at the Richard Ramsden Centre for Auditory Implants and the management of patients with a retraction pocket or cholesteatoma was reviewed.

Results: Five patients with cochlear implants were identified with cholesteatoma – one adult and four paediatric patients. Four presented with otorrhoea and wound breakdown, one was an incidental finding of congenital cholesteatoma at time of implantation. Two patients required device replacement, one was removed without reimplantation. Cholesteatoma was managed by canal wall down mastoidectomy and blind sac closure.

Five patients were identified with retraction pockets – two adults, one adolescent, two paediatric patients. Two presented with recurrent otorrhoea and were managed with cartilage tympanoplasty to cover exposed electrodes. Two presented with imbalance and one was noted as an incidental finding. These three patients were managed conservatively with recurrent microsuction in the outpatient clinic. None of these patients required removal of reimplantation of their device.

Conclusions: Device failure or damage is common in cholesteatoma either as a result of disease itself or surgery. Reimplantation should occur at time of electrode explantation where possible to prevent obliteration of the cochlear duct. Cochlear implants in retraction pockets generally do not result in device failure and require surgical intervention only if symptoms dictate.

doi:10.1017/S0022215116002322

Free Papers (F664)

ID: 664.6

VORP 503 in mixed hearing loss and radical cavities

Presenting Author: **Torsten Mewes**

Torsten Mewes

Helios Dr.-Horst-Schmidt-Kliniken Wiesbaden

Learning Objectives: Vibrant Soundbridge VORP 503, Round Window Soft Coupler, radical cavities.

The Vibrant Soundbridge VORP 503 is an active middle implant, which could be coupled at the ossicle chain or directly onto the round window membrane. The Round Window Soft (RWS)-Coupler is a silicone coupler and connects the Floating mass transducer to the round window membrane without any interposition of artificial fascia. The VORP 503 is now simply fixed at the bone with two screws.

We present the results of patients with radical cavities, which had several tympanoplasties for hearing restoration in the past. All of them were implanted with a VORP 503 using a RWS-Coupler.

The postoperative audiological tests showed good results by aided pure tone audiogram, monosyllabic speech test and sentence test in noise. The VORP 503 and RWS-Coupler made coupling to round window membrane easier and more precise. The results are better comparable between different surgeons.

doi:10.1017/S0022215116002334

Mastoid reconstruction (R666)

ID: 666.1

Mastoid reconstruction using autologous materials

Presenting Author: **Joe Kutz**

Joe Kutz

University of Texas Southwestern Medical Center

Learning Objectives: Mastoid defects are commonly found during surgery for chronic otitis media, temporal bone tumors, or trauma. Without repairing defects of the external auditory canal or scutum, cholesteatoma or chronic infection may develop. Encephaloceles can occur if tegmen defects are not adequately repaired. Autologous materials can be used to repair these defects with the benefit of less tissue reaction, availability of tissue, and less cost. Cartilage with or

without perichondrium is readily available and can be used to repair external auditory canal, scutum, and tegmen defects. Bone pate collected during the mastoidectomy can be used to repair bony defects. The advantages and disadvantages of these materials and techniques will be discussed. Photos and videos will be used to demonstrate these techniques.

doi:10.1017/S0022215116002346

Mastoid reconstruction (R666)

ID: 666.2

Bone Cements for Mastoid/Posterior Canal Wall Reconstruction

Presenting Author: **Sujana Chandrasekhar**

Sujana Chandrasekhar

New York Otology; Hofstra-Northwell School of Medicine

Learning Objectives: 1. Understand need for reconstruction of the posterior canal wall in canal wall down mastoidectomy 2. Describe the different types of bone cements that are available for mastoid/PCW reconstruction 3. Know the indications and contraindications for use of cement(s) in chronic ear cavities.

Long-term management of the canal wall down mastoidectomy cavity remains a concerning issue. Quality of life (QOL) measures are reduced in patients with large mastoidectomy bowls that necessitate life-long otologic care. Interestingly, QOL between patients with intact canal wall mastoidectomies and reconstructed canal wall down mastoidectomies is not different. This has spurred attention to various posterior canal wall reconstruction techniques. Since the early 1980s various cements have been tried for reduction of cavity/bowl size and reconstitution of the posterior canal wall. These have fallen into and out of favor as long-term results have become available. The bed should be as pristine and clean as possible before the cement foreign body is placed there. Cement can be used alone or in conjunction with a free island of bone – either from the posterior canal wall or from the cortex of the skull. Certain cements, such as glass ionomers, cannot be used if there is potential contact with cerebrospinal fluid because of possible aluminum encephalopathy. Care must be taken for early identification and treatment of local infection (6% to 35%) or delayed extrusion of the cement. In clean, selected cases, bone cement can be used as a tool for mastoid reconstruction when the canal wall must be removed due to extent of disease. Types of available cements, techniques for use, clinical ‘pearls’ and images of good and bad reconstructive outcomes will be presented.

doi:10.1017/S0022215116002358

Mastoid reconstruction (R666)

ID: 666.3

The benefits and expectations using mastoid reconstruction and obliteration technique

Presenting Author: **Jona Kronenberg**

Jona Kronenberg

University of Tel-Aviv

Learning Objectives: Mastoid obliteration with posterior wall reconstruction techniques gained much popularity among the mastoid surgeon in recent years. The results published in the literature are promising ranging between 0–15% cholesteatoma recurrences. Because of its aggressivity and irreversibility, radical mastoidectomy for cholesteatoma was totally abandoned in some institutions. This presentation describes our attitude toward this surgical trend.

Methods: The experience of the author includes 114 patients operated since 2008. The follow-up ranged between 12 months and 8 years (mean of six year and 5 months). Sixty-nine primary procedures (i.e., no previous mastoidectomy) and 45 secondary procedures (more than one previous mastoidectomy) were performed. Autologous bone was used for posterior wall reconstruction and bone pate was used for mastoid obliteration. The results of cholesteatoma recurrences and the rate of dry ear were evaluated and compared in the two groups of patients.

Results: There were 18 cases of recurrent cholesteatoma in the total group (15.8%). Seven of them in the primary group (10.1%) and 11 in the secondary group (24.4%). Nine patients had a stubborn cholesteatoma, 4 patients of those were operated more than 3 times. Two patients finally underwent radical mastoidectomy. All cholesteatoma were located in the middle ear and no one in the obliterated mastoid. Dry ear with no need for taking precautions against water was achieved in 53 of the primary group of patients (76.8%) compared to 29 in the secondary group of patients (64.4%).

Conclusions: Reconstruction techniques of the posterior wall and obliteration of the mastoid had first appeared to be the “promised land” of a solution for mastoid cholesteatoma, and raised the hopes that radical mastoidectomy surgery could be abandoned. With more experience, however it emerged that this held true solely for primary surgery. The surgical outcomes for cases of secondary cholesteatoma were worse than those achieved in radical mastoidectomy. Thus, radical mastoidectomy is still indicated for stubborn cholesteatoma.

doi:10.1017/S002221511600236X

Mastoid reconstruction (R666)

ID: 666.4

Mastoidectomy reconstruction: titanium sheeting and middle temporal flap technique

Presenting Author: **Bruce Black**

Bruce Black

University of Queensland/Lady Cilento Children’s Hospital

The chronically infected open mastoidectomy cavity is a common problem in otologic surgery. Corrective surgical options include revision surgery, obliteration with flaps or