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Learning Objectives: To demonstrate that the endoscopic approach is a viable option when removing residual and recurrent cholesteatomas.

Introduction: While the endoscope has long been used in surgery, its adoption has been slower in ear surgery due to the narrowness, relative inaccessibility and delicateness of the ear. However, we have successfully used the endoscope in transcanal endoscopic ear surgery (TEES) as well as a combined transcanal-transcortical endoscopic approach. TEES is a less invasive procedure used initially to remove primary cholesteatomas located in the antrum and/or attic through the ear canal without the need for a large, invasive retroauricular incision. Moreover TEES can also now be used to remove residual and recurrent cholesteatomas if they are located in the attic and/or antrum. The combined transcanal-transcortical endoscopic approach is also being used to successfully remove recurrent cholesteatomas extending into the mastoid even after removal of the primary cholesteatoma via a transcortical mastoidectomy. Therefore the endoscopic approach should be considered as an option in the removal of residual and recurrent cholesteatomas regardless of their location.

Methods: The presence and location of residual and recurrent cholesteatomas were diagnosed by a CT scan and color mapped fusion imaging (CMFI). A CMFI was created by first combining a 1-mm thin slice non-EPI DWI with MR cisternography (MRC) and then performing color mapping to enhance the visualization of the cholesteatoma. TEES was used to remove cholesteatomas located in the attic and/or antrum. When the cholesteatoma extended into the mastoid, the dual transcanal-transcortical endoscopic approach was employed including a small retroauricular incision of less than 10 mm to insert the endoscope and other tools.

Results: We successfully removed residual cholesteatomas located in the attic and/or antrum and recurrent cholesteatomas extending into the mastoid using the endoscope.

Conclusion: The endoscopic approach is a viable option when removing residual and recurrent cholesteatomas regardless of their location.

doi:10.1017/S0022215116007210

ID: IP225

Post-Stapedectomy Granuloma: A Devastating Complication

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Learning Objectives: Surgical debulking can be beneficial in cases refractory to medical therapy. Although it is a rare complication, post-stapedectomy granuloma should be considered in any patient presenting with tinnitus, otalgia, vertigo or hearing loss after stapes surgery.

Introduction: Our aim was to report cases of post-stapedectomy granuloma and examine outcomes following surgical debulking.

Methods: Retrospective case review. Three patients presenting with otalgia following stapedectomy between 2010 and 2015. Tinnitus, hearing loss and facial paralysis occurred in two of these cases. When symptoms failed to improve despite maximal medical therapy, patients underwent exploratory tympanotomy and exenteration of granuloma.

Results: Intra-operatively, granulation tissue consistently surrounded the oval window niche, prosthesis and long process of the incus, emulating radiographic findings. The granulomatous reaction spread along the seventh and eighth cranial nerves to reach the cochlear nucleus in one patient. In all cases, clinical improvement was demonstrable although symptoms failed to completely resolve. Overall, facial nerve function recovered, variable reductions in pulsatile tinnitus occurred and otalgia persisted in all cases. Diminution of contrast enhancement on serial MRI scans corroborated clinical improvement and permitted post-operative monitoring of disease recurrence. Post-operative complications included Grade IV facial weakness and a pseudomonas aeruginosa meningitis, both of which completely recovered.

Conclusion: To the authors' knowledge, this is the only case where granuloma has tracked to the brainstem. Surgical debulking was beneficial in these three cases of post-stapedectomy granuloma refractory to medical therapy. Although it is a rare complication, post-stapedectomy granuloma should be considered in any patient presenting with tinnitus, otalgia, vertigo or hearing loss after stapes surgery.

doi:10.1017/S0022215116007222

ID: IP226

Revision surgery and complications after myringoplasty

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Learning Objectives: The aim of the present study is to analyze the number of revisionmyringoplasties and complications across Sweden, in the aspects of take rate/post-operative infection/tastedisturbance/tinnitus.

Myringoplasty is a common middle ear surgery performed to close a TM perforation.

Since 1997 these procedures have been reported by a majority of ENT clinics to a National Quality Register in Sweden. The data from the quality register have in this study been used to evaluate patients operated with