

cavity had a recurrent infection in the mastoid cavity, the miatus opened and discharge persisted. All other operated patients ears stopped discharging therefore the success rate in this series is 95%. There were no major complications after surgeries. All patients who had a bone anchored hearing device or a cochlear implant presented benefit from their devices.

Conclusion: Patients with weeping cavities are debilitated due to water precautions, vestibular effect, the reduced hearing and the discharge that can be extremely disturbing. A debilitating weeping cavity which does not respond to medical treatment is a surgical disease. In such patients STP with hearing rehabilitation should be suggested.

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Free Papers (F762)

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Outcomes following trans-mastoid occlusion surgery for superior semicircular canal dehiscence

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Learning Objectives:

Introduction: Semicircular canal dehiscence syndrome (SCDS) is caused by a bony defect of the superior semicircular canal, resulting in autophony, bone conduction of bodily sounds and pseudo conductive hearing loss. Vestibular manifestations include sound or pressure evoked vertigo. Occluding the dehiscence canal was originally described via the middle cranial fossa approach however, an alternative transmastoid approach has been used to avoid the morbidity associated with the former. The aim of this project was to determine clinical and audiological outcomes for those undergoing the transmastoid approach.

Methods: All patients suggestive of SCDS underwent CT scanning, cVEMP testing. All those with positive findings for both (dehiscent superior canal and cVEMP thresholds >35%) underwent surgery. Audiometric data were obtained and patients were sent questionnaires retrospectively regarding their symptoms.

Results: Twenty patients, with 22 affected ears underwent surgical occlusion. The commonest reported symptoms pre-operatively were hearing internal sounds, tinnitus, and fullness sensation (95%, 95%, and 82% respectively.) The symptoms most likely to show partial or complete improvement post operatively were hearing internal sounds, vertigo to loud sounds and imbalance (91%, 88% and 87% respectively.) Symptom deterioration occurred in two ears with respect to fullness. 9 patients developed new symptoms post operatively (of 'mild nature'), the most common being imbalance (3) and fullness (2). Overall, 15 ears (68%) showed partial or complete symptom improvement, 6 showed no change and 1 was worse. The mean Dizziness Handicap Inventory Scores improved from 43 pre-op to 24 post op ($p = 0.001$). The mean air conduction (Fletcher's index) improved from 13.2 dB to 11.1 dB.

Conclusion: The transmastoid approach to the superior canal appears to be well tolerated and is associated with low risk to hearing. Symptom improvement is seen in two thirds, but temporary imbalance post op is common.

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The Hong Kong Vascularized Temporalis Fascia Flap and its role in Cholesteatoma Surgery revisited

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Learning Objectives: When reconstructing large mastoid cavities, the surgeon's repertoire should include a technique that uses a vascularized lining to optimize patient outcomes.

Introduction: Complications following open cholesteatoma surgery arise when mastoid cavities fail to epithelialize. The Hong Kong flap is a fertile substrate of vascularized temporalis fascia lining that facilitates rapid epithelial lining. We have studied the long term outcome of this technique and reviewed its role in cholesteatoma surgery.

Methods: We analyzed data obtained from records of patients who have had cholesteatoma surgery in the Prince of Wales group of hospitals through the period from 1987 to 2015. The outcome measures included relevant clinical parameters such as time to achieve a dry ear, requirement for a second look procedure and the primary surgeon's level of experience.

Results: The Hong Kong flap reconstruction was not utilized in all of cholesteatoma operations over this period. In patients reconstructed with the Hong Kong flap, the median time to dry ear was 2 months. 20% needed a second look or more and 8% were found to have recurrent or residual cholesteatoma. Surgeons with varying levels of surgical experience successfully performed the procedure.

Conclusions: The Hong Kong vascularized temporalis fascia flap is a technique within the capability of average otologists. The post-operative course is categorized by rapid healing and long term healthy, trouble free cavities. The requirement for second look procedures is significantly reduced.

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Free Papers (F763)

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Otology Questionnaire Amsterdam (OQUA); preliminary results on the development of a general otologic questionnaire

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Learning Objectives: - Patient Related Outcome Measures are increasingly important in the evaluation of ear complaints. - Most patients with ear complaints suffer from multiple ear complaints or changing complaints after treatment. - The development and future implementation of a general otologic questionnaire will help to improve otologic care in all patients with ear complaints. - Multiple steps are needed to develop and validate a well-designed questionnaire.

Introduction: Most patients visiting an ENT-doctor because of an ear complaint suffer from multiple ear complaints. Patient Reported Outcome Measures (PROMs) are useful in the evaluation of these complaints. However, there is no well-validated, Dutch PROM available that contains items about all types of ear complaints.

Objectives: Development and validation of a questionnaire (OQUA), applicable to all adult patients visiting an ENT-doctor because of an ear complaint. The OQUA needs to cover all common ear complaints and all three parts of the questionnaire (severity, impact and change over time) must be able to be evaluated separately.

Methods: Patients over the age of sixteen who presented themselves to an ENT-doctor with an ear complaint were recruited for a series of studies. First, qualitative research through in depth interviews (N = 16) was carried out to identify the various domains of ear complaints. Then, a pilot study of the first and second draft of the OQUA (N = 32, N = 39) was performed. Finally, quantitative research was performed by field-testing (N = 352). Item reduction took place based on factor and reliability analyses.

Results: In the qualitative phase, eight domains of ear complaints were identified: earache, hearing loss, otorrhoea, dizziness, itch, tinnitus, pressure in ear and loss of taste. In the quantitative phase, ten out of fifty items were removed based on factor analysis, seventeen items were removed based on reliability analysis. Based on factor analysis, nine factors emerged. The current version of the OQUA comprises twenty-three items, covers all eight domains of ear complaints and contains eleven items about complaints that often occur in patients with cholesteatoma.

Conclusions: Many patients with an ear complaint report several ear complaints. The current version of the OQUA questionnaire serves as a good basis for the development of the final, validated version of this questionnaire.

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Otoendoscopy assisted Combined Approach Tympanoplasty: Can it replace posterior tympanotomy

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Learning Objectives:

Background: The aim of combined approach tympanoplasty is to middle ear and mastoid eradicate the disease and obtain dry ear whilst preserving the structure and function of the middle ear as far as possible. Facial recess and sinus tympani are anatomic sites that are difficult to assess with a microscope. Hence a posterior tympanotomy is used by most surgeons as a standard step for clearance of these areas. Otoendoscopy also allows excellent visualization of these areas and reduces surgical steps and time.

Aim of the study: To compare between the recurrence rate of secondary cholesteatoma following CAT surgery using either posterior tympanotomy or otoendoscopy.

Study design: Retrospective case review over a period of 10 years at a single centre.

Setting: Regional Department of Neurotology, Sheffield Teaching Hospital, UK.

Inclusive criteria: We included every CAT that was performed in adults (>16 yr), by a single surgeon (senior author), for acquired cholesteatoma between 2006 and 2015, with a 12-month disease-free interval.

Results: A total number of 152 CAT (stage 1) procedures done between 2006 and 2015 by a single surgeon were included. Of these 25 (16%) cases (ears) showed evidence recurrent cholesteatoma as demonstrated by imaging (T2 weighted non EPI MRI) needing a second look procedure. 17 of them could be retained as a closed cavity (CAT stage 2) while 8 cases were converted into an open mastoid cavity (Modified Radical Mastoidectomy). Analysed in their own subgroups the recurrence rate in those with a posterior tympanotomy was 26% (18/70 cases) whilst it was 8% (7/82 cases) in those where the otoendoscope was used.

Conclusion: Otoendoscopy provides a simple and reliable approach for managing cholesteatoma in facial recess area in combined approach tympanoplasty. When used carefully and meticulously it can be used in place of a posterior tympanotomy approach with comparable results.