

as an adjuvant instrument. Though totally transcanal endoscopic ear surgery (TEES) can provide wide surgical view without destruction of normal anatomical structures, it has disadvantage of one hand surgery with two instrument in relatively narrow ear canal. Surgical time for the TEES is longer than in microscopic surgery, especially for the beginners.

We use the endoscope for every cholesteatoma surgery as an adjuvant instrument for microscopic surgery. With combined approach from both transcanal and transmastoid approach, we use the endoscope of 45 and 70 degree for inspection of blind spot in the middle ear cavity, and remove the remnant or residual cholesteatoma with intact canal wall. The chances of canal wall down approach were reduced dramatically with this methods. This technique is very useful especially for adhesive middle ear disease, attic cholesteatoma and congenital cholesteatoma.

We will present the cases of adhesive middle ear disease, attic and congenital cholesteatoma with this endoscope as an adjuvant for microscopic surgery.

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Updates in the surgical managements for cholesteatoma (N845)

ID: 845.5

Tailored management and long-term outcome of congenital cholesteatoma

Presenting Author: **Seung Ha Oh**

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Learning Objectives: As the endoscopic exam of tympanic membrane in young children become more popular, detection rate of early stage of congenital cholesteatoma has been increased significantly. Once identified, every cholesteatoma should be treated surgically with a primary goal of total eradication to obtain a safe and dry ear. The congenital cholesteatoma at anterior superior quadrant can be removed relatively easier than the posterior located one. Posterior mesotympanic cholesteatoma spreads posterior-superiorly, medial to incus body. It invades into the facial recess and sinus tympani and is prone to involve stapes and its joint. Epitympanum and mastoid invasion should be accessed by temporal bone CT and diffusion MRI image technique. These preoperative diagnostic evaluation can prevent the unnecessary mastoidectomy. Nowadays, it has been more popular to use endoscope during ear surgery. By using endoscopic assistance, transcanal approach could be enough to manage the most of congenital cholesteatoma which does not extend to the mastoid. In addition to that, the use of endoscope is justified for direct visualization of the deep sinus tympani. A long term follow up is necessary in order to detect the residual or recurrent cholesteatoma. Unwanted retraction or adhesion of tympanum are not infrequent especially in the posterior mesotympanic cholesteatoma cases. Our experience and management algorithm will be discussed.

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Once identified, every cholesteatoma should be treated surgically with a primary goal of total eradication to obtain a safe and dry ear. The congenital cholesteatoma at anterior superior quadrant can be removed relatively easier than the posterior located one.

Posterior mesotympanic cholesteatoma spreads posterior-superiorly, medial to incus body. It invades into the facial recess and sinus tympani and is prone to involve stapes and its joint. Epitympanum and mastoid invasion should be accessed by temporal bone CT and diffusion MRI image technique. These preoperative diagnostic evaluation can prevent the unnecessary mastoidectomy.

Nowadays, it has been more popular to use endoscope during ear surgery. By using endoscopic assistance, transcanal approach could be enough to manage the most of congenital cholesteatoma which does not extend to the mastoid. In addition to that, the use of endoscope is justified for direct visualization of the deep sinus tympani.

A long term follow up is necessary in order to detect the residual or recurrent cholesteatoma. Unwanted retraction or adhesion of tympanum are not infrequent especially in the posterior mesotympanic cholesteatoma cases. Our experience and management algorithm will be discussed.

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Outcome measure in Cholesteatoma Surgery (R846)

ID: 846.1

Systematic Review Questionnaires in Otology

Presenting Author: **Paul Merkus**

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Learning Objectives:

- To help the ENT surgeon identifying the most suitable questionnaire for their practice.
- To give a brief overview of all available otologic questionnaires.

Introduction: A Patient Reported Outcome Measure (PROM), like a questionnaire, is a valuable tool in assessing quality of health care from a patient perspective. Questionnaires are widely used by otologists. However, the large number of available questionnaires makes it almost impossible for the ENT surgeon to choose which one to use.

Methods: A systematic literature search has been conducted using the Embase and Pubmed medical databases. Questionnaires addressing any otologic complaint (tinnitus, hearing, earache, otorrhea, itch, dizziness, pressure sensation, and taste) were evaluated for eligibility by two independent researchers. Inclusion criteria were: human adult population, closed end questionnaire, English language and availability of the original article describing the development of the instrument. Methodological quality was

assessed by using the COSMIN-criteria: a checklist providing a standard for design requirements and preferred statistical analyses.

Results: A large number of questionnaires was found. The following outcome variables will be presented in our overview: the number of items, response scales, subscales, cut-off/end points, reliability and validity. If possible, the questionnaires will be ranked according to usefulness and actual use in literature.

Conclusion: A large number of otologic questionnaires is available in literature. The presented overview will highlight the best available questionnaires in the follow-up of otologic patients.

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Outcome measure in Cholesteatoma Surgery (R846)

ID: 846.2

The COMQ-12 and the COMBI questionnaires for the assessment of cholesteatoma surgery outcome

Presenting Author: **John Phillips**
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Learning Objectives: 1. To appreciate the significance of attaining HRQoL data from patients to assess outcome. 2. To understand the development and application of the COMQ-12. 3. To understand the development and application of the COMBI. 4. To appreciate how the use of the COMQ-12 and COMBI represent an opportunity to compare HRQoL worldwide.

Health related quality of life (HRQoL) measurements reflect the overall burden of disease from the perspective of the patient rather than the clinician. This makes the acquisition of this kind of data particularly pertinent in otology, where single clinical, radiological, and audiological findings may inter-relate poorly, and therefore poorly predict HRQoL. The use of HRQoL measures has been shown to aid both the patient's prioritisation of their symptoms and the management of their individual expectations.

The COMQ-12 and COMBI have been developed to assess the patient-reported health-related quality of life (HRQoL) due to chronic otitis media. Both of these questionnaires have been developed to be completed by the patient before physician assessment. Both questionnaires are composed of 12 items that cover a broad range of experiences pertinent to patients with chronic otitis media. The COMQ-12 and COMBI have been developed from the same core item pool, and are complimentary tools that have been shown to provide an accurate assessment of disease severity.

This presentation will take the opportunity to detail the process of questionnaire development and psychometric analysis. Details regarding the translation of these questionnaires into foreign languages and their relevance for assessing outcome in clinical practice will also be provided.

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Outcome measure in Cholesteatoma Surgery (R846)

ID: 846.3

Temporary removal of the posterior bony canal wall in cholesteatoma surgery

Presenting Author: **Vincent Van Rompaey**

Vincent Van Rompaey, Karen Van der Gucht,
Olivier Vanderveken, Paul Van de Heyning, Jos Claes
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Learning Objectives: To describe an alternative technique to enable cholesteatoma removal. To report on the outcome in patients that underwent this type of surgery.

We describe the surgical technique of temporary removal of the posterior auditory canal wall with reconstruction and report the outcome of using this technique as a treatment method for cholesteatoma in a case series. In 32 cases of cholesteatoma surgery a technique of temporary removal of the posterior bony wall was applied. During primary surgery the posterior auditory canal wall was removed using an oscillating saw. For the purpose of reconstruction, the canal wall was repositioned and fixed using two titanium microplates (n = 26). In case the canal wall could not be reconstructed with osteosynthesis, either glass-ionomeric cement (BioCem) was used for fixation (n = 4) or fibrin glue (Tissucol) (n = 2) to support the posterior wall. The outcome includes the healing process in the first post-operative month, the absence of residual or recurrent disease and the successful reconstruction of the posterior auditory canal wall as evaluated during second-look surgery. When microplates were used, we saw healing problems of the canal skin in about 4 % of patients. Recurrent cholesteatoma was found in 4 cases (14 %), residual cholesteatoma in 8 ears (25 %). In the osteosynthesis group, successful reconstruction was achieved in 25 patients (96 %). In 3 out of 4 patients of the glass-ionomeric cement group (75 %) excessive granulation tissue developed with extensive bony lysis. Temporary removal of the posterior auditory canal wall offers potential for the control of cholesteatoma. Our first results suggest that osteosynthesis allows for a good anatomical and functional reconstruction.

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Bonebridge and Soundbridge – practical approaches (V847)

ID: 847.1

Bonebridge: Surgical Planning, Outcomes, and Innovations

Presenting Author: **Peter Grasso**

Peter Grasso
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Learning Objectives: The objective of this presentation is to review the key features of the radiological and surgical planning software for the Bonebridge.