

Conclusion: Removal of cholesteatoma matrix and sealing should be performed in one-stage procedure in LF, because its disease progression and additional infection may cause. We think that the multi-layered reconstruction of LF is desirable to prevent postoperative perilymph leakage and deterioration of BC hearing level.

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Review on external auditory canal cholesteatoma and proposal of more clinical classification

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Learning Objectives:

Introduction: External auditory canal cholesteatoma (EACC) is a relatively rare disease and its etiology is uncertain. There seem no guidelines of its management throughout the world.

Methods: Eighteen ears of 17 cases with EACC, which we operated during the past 6 years, were reviewed on its extension and management.

Results: The median age was 58 years old (16–80). There are 4 males (1 with bilateral EACC) and 13 females. Preoperative CT showed the lesion localized in the EAC in 18 ears; only bony erosion in 5 ears and bony destruction in 13 ears. Out of 13 ears, extension to the middle ear was found in 2 ears, to the mastoid in 2 ears, and to the both in 2 ears. Canaloplasty alone was performed in 8 ears. Canaloplasty with mastoidectomy was performed in 1 ear. Tympanoplasty was performed in 9 ears; type I in 6, type IIIc in 2, and type W0 (without ossiculoplasty) in 1.

Discussion: Although Naim et al reported a classification of EACC based on macroscopic and histological criteria, we here propose alternative, more simple classification based on its extension and treatment modalities; Stage 0 : only surface lesion without bony lesion, Stage I: only bony erosion, Stage II: bony deficit localized in the external auditory canal, Stage III: invasion into the tympanic cavity (T), mastoid (M) or combined (T + M), Stage IV: the adjacent anatomical structure complications (e.g. facial palsy (FP), labyrinthine fistula (LF), petrous bone/skull base destruction (PB), and temporo-mandibular joint destruction (TJ)) Following our classification, there are 5 ears in Stage I, 7 in Stage II, 6 in Stage III (2 in T, 2 in M, and 2 in T + M), 0 in Stage IV. Conservative treatment is recommended in cases of Stage I EACC. For Stage II cases with severe otorrhea, canaloplasty may be needed. Cases of Stage III need tympanoplasty, mastoidectomy, or the both. Treatment for Stage IV cases needs more argument.

Conclusion: More clinically applicable classification of EACC is proposed.

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Regenerative treatment for tympanic membrane perforation with cholesteatoma, tumor, or severe calcification

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Learning Objectives: How to regenerate the TM with cholesteatoma, tumor, or severe calcification.

Background: We developed a new regenerative treatment for large tympanic membrane (TM) perforations without the need for conventional surgical therapy. This treatment was performed on patients with cholesteatoma, tumor, or severe calcification of the TM.

Methods: Twenty-five patients (Age: 9–85; M = 10, F = 15) were selected from patients with or without TM perforation. Ten patients had cholesteatomas, 3 had tumors and 12 had severe TM calcification. They were classified into three groups based on TM perforation size: less than 1/3 of the TM as Grade I (n = 4), 1/3 to 2/3 as Grade II (n = 13) and over 2/3 as Grade III (n = 8). Materials for the TM repair included gelatin sponge with b-FGF and fibrin glue. After lesions were removed through the TM perforation, gelatin sponge immersed in b-FGF was placed over the perforation. Fibrin glue was then dripped onto the sponge. Treatment efficacy was evaluated 6 months post-treatment. Treatment was repeated up to 4 times if complete closure of the TM perforation was not achieved after the first treatment.

Results: Complete closure of the TM perforation was achieved in 92% (n = 23/25) of the cases. The average hearing level in all patients with successful TM repair was improved or maintained. No serious sequelae were observed in any patient.

Conclusions: This new regenerative therapy is useful not only for patients with simple TM perforations but also for those with cholesteatoma, tumor, or severe calcification without requiring conventional surgical procedures. This innovative regenerative therapy is an easy, safe, cost-effective and minimally-invasive treatment.

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Cholesteatoma recurrence after endoscopy assisted tympanoplasty

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