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Learning Objectives: Safety and efficacy of mastoid obliteration with autologous bone.

Introduction: Canal wall down (CWD) mastoidectomy is credited to low cholesteatoma recidivism, however drainage and infection of the mastoid bowl is sometimes a complication of surgery. Obliteration with autologous bone of the mastoid cortex can avoid the disadvantages of the CWD approach by combining the benefits of a smaller cavity less prone to infections. The aim of the study was to compare anatomical and functional results of “non-obliterated CWD mastoidectomy” (NO) and “obliterated CWD mastoidectomy” (O).

Methods: Consecutive CWD mastoidectomy from 1994 to 2014 have been reevaluated to analyze incidence of post-operative synechiae and recurrent infections of the mastoid bowl, retraction pocket and perforation of the neotympanum, recurrence of cholesteatoma, and hearing threshold change (more than 10 dB in average 0.5–3 kHz).

Results: The study group included 317 adult patients (149 males and 168 females). Mastoid obliteration was performed in 88 patients (28%). There were 217 primary surgeries and 100 treatments for a recurrence (33% NO and 27% O) ($P = 0.3$). The cholesteatoma involved the middle ear in 71 patients, 246 had also a mastoid extension (76% in NO and 81% in O) ($P = 0.4$).

Dry synechiae developed in 11% (25/229) of NO and 16% (14/88) of O ($P = 0.2$). Recurrent discharge were observed in 8% (18/229) of NO and 3% (3/88) of O ($P = 0.1$). Dry retractions developed in 14% (32/229) of NO and 11% (10/88) of O ($P = 0.7$). Perforations were observed in 2.5% (6/229) of NO and 3% (3/88) of O ($P = 0.7$). Cholesteatoma recurred in 2% (4/229) of the NO and in none of O ($P = 0.6$). Hearing threshold improvement was observed in 28% (59/214) of NO and in 61% (38/62) of O ($P = 0.001$), impairment was observed in 12% (26/214) of NO vs. 13% (8/62) of O ($P = 0.9$).

Conclusions: Postoperative complication and anatomical results were comparable between NO and O, while functional results were superior in O.

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Free Papers (F632)

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Life table analysis of results of staged intact canal cholesteatoma surgery using bone pate to reconstruct the lateral attic wall

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Introduction: An insidious problem hampering treatment of cholesteatoma is the propensity of the disease to recur; this is considered to be a particular problem after intact canal surgery.

We continue to perform intact canal surgery for cholesteatoma, because this allows preservation of the ossicular chain, which has been shown to provide the best hearing after cholesteatoma surgery.

We review a technique developed in our institution thirty years ago to minimise recurrence of cholesteatoma after intact canal cholesteatoma surgery.

Method: Inclusion criteria: ears with attic cholesteatoma that underwent reconstruction of the lateral attic wall at primary surgery using bone pate.

Patients underwent second look procedures to exclude residual disease. This afforded an opportunity to further strengthen the lateral attic wall, if needed.

Patients were reviewed annually until five years after their original surgery.

The primary outcome was the need for further surgery for recurrent cholesteatoma.

Life table analysis was used to take account of patients lost to follow up before five years.

Results: 150 ears were included.

Ninety six per cent of the ears survived to five years without need for further surgery due to recurrent cholesteatoma.

Conclusion: Reconstruction of the lateral attic wall in staged intact canal cholesteatoma surgery with bone pate reduced the risk of recurrent cholesteatoma to levels similar to those seen in the best alternative techniques.

Learning Point: Surgery aimed at maintaining the best hearing after cholesteatoma surgery need not be associated with high rates of recurrent cholesteatoma.

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The use of S53P4 bioactive glass for mastoid obliteration in cholesteatoma surgery

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Learning Objectives: To inform about the results of the use of S53P4 bioactive glass for obliteration of the mastoid cavity in cholesteatoma surgery. To demonstrate the advantages and limitations of the technique.

Introduction: Mastoid obliteration has been reported to reduce the number of recurrences and improve the quality of life in both canal wall up (CWU) and canal wall down (CWD) procedures, in the treatment of cholestatoma. Confronted with a rather high recurrence rate after CWU surgery without obliteration, we implemented the use of S53P4 bioactive glass (BonAlive). Our choice was made