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Outcomes of canal wall down mastoidectomy in cholesteatoma: a 5-year experience

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Abstract

Background Cholesteatoma is an atticointral disease that potentially causes life-threatening complications. Therefore, canal wall down mastoidectomy is a well-established technique to eradicate the disease, especially in extensive cholesteatoma.

Aim To evaluate the status of dry ear and hearing outcome post-retrograde canal wall down mastoidectomy.

Methods A retrospective study of patients with cholesteatoma who underwent modified radical mastoidectomy (MRM), a form of canal wall down mastoidectomy between January 2014 and December 2018.

Results Fifty-seven patients were included with a mean age of 40 years. The majority of cases were adults, 86%, and 14% were children. Most of them complained of ear discharge (73.7%), followed by hearing loss (31.6%). Intraoperatively, cholesteatoma was primarily found in cases involving mastoid air cells, antrum, attic, and mesotympanum (47.4%). The presence of granulation tissue with cholesteatoma was noted in 57.9% of cases. Furthermore, 73.7% of ossicular chain erosion cases involved erosion of all ossicles (47.6%). In 26.3% of cases, tegmen erosion was identified. Facial canal dehiscence accounted for 15.8% of MRM cases, sclerotic mastoid was noted for 10.5%, and lateral semi-circular canal dehiscence involved 5.3%. Up to 3 months of follow-up post-MRM showed 70.2% had a dry ear. After 6 months, there were 15.8% complaints of ear discharge in the subsequent follow-up. In this study, 33 out of 57 patients underwent a postoperative hearing evaluation, and 21.2% of patients showed an improvement in the air-bone gap.

Conclusion Canal wall down mastoidectomy is a treatment of choice in extensive cholesteatoma to achieve a dry and safe ear with maintaining functional hearing outcomes.

Keywords Canal wall down mastoidectomy, Modified radical mastoidectomy, Cholesteatoma

Background

Cholesteatoma is a benign disease but is locally aggressive [1]. It can occur together with chronic suppurative otitis media or chronic mastoiditis patients [2]. Surgical intervention is a treatment of choice in cholesteatoma. Mastoidectomy is a common surgical treatment to clear the disease and produce a safe ear [3]. There are 2 approaches to managing cholesteatoma, which are canal wall up mastoidectomy (CWUM) and canal wall down mastoidectomy (CWDM) [2]. CWUM includes cortical mastoidectomy and combined approach tympanoplasty,

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