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A Case Report on Cholesteatoma with Mastoiditis and External Otitis Media

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Abstract

Cholesteatoma is a well differentiated, non-neoplastic, keratinizing squamous epithelial growth of middle ear or mastoid. Here we report a case of young lady presenting with on and off ear pain and discharge since 1 year. She was subsequently treated with IV Antibiotics and procedure called as Modified Radical Mastoidectomy (MRM)-Left. Patient had no recurrence of the same till date.

Keywords

Cholesteatoma; Tragal tenderness; Mastoiditis; Antibiotics

Introduction

Cholesteatoma is a well differentiated, non-neoplastic, keratinizing squamous epithelial growth of middle ear or mastoid. The incidence of Cholesteatoma varies from 1 to 7.1 cases out of 1000 newer otologic patients. Asper literatures, primary cholesteatoma is seen more in adult patients. Diagnosis is based on clinical examination, CT scan. Here we report a case of young lady presenting with on and off ear pain and discharge since 1 year. She was subsequently treated with IV Antibiotics and procedure

called as Modified Radical Mastoidectomy (MRM)-Left. Patient had no recurrence of the same till date.

Case Report

A 28 years old female patient was bought to ENT OPD with history of recurrent pain in the left ear since last 1 year, associated with feeling of ear fullness. She had neither past history of trauma to ear nose surgical procedure. Epidermal debris and purulent otorrhea was revealed via otoscopic examination. Also, upon examination, left TM was seen retracted with tragal tenderness. Right ear was normal. The tympanometry studies was as given in (Figure 1).

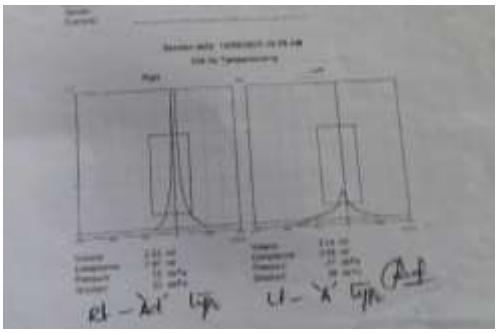

Figure 1: Tympanometry studies.

Figure 2: Normal bilateral audiologic evaluation.

Right head showed AD type tympanogram Left ear showed A type tympanogram. Audiological evaluation was normal bilaterally (Figure 2,3). Base on provisional diagnosis, the patient was taken for CT scan of temporal bones. CT scan showed paucity of left mastoid air cells with sclerotic walls, soft tissue density lesion with total erosion of posterior wall of EAC, with extension to posterior and superior aspect of EAC. All these features were suggestive of Cholesteatoma with Mastoiditis. Ear endoscopy also revealed Cholesteatoma.

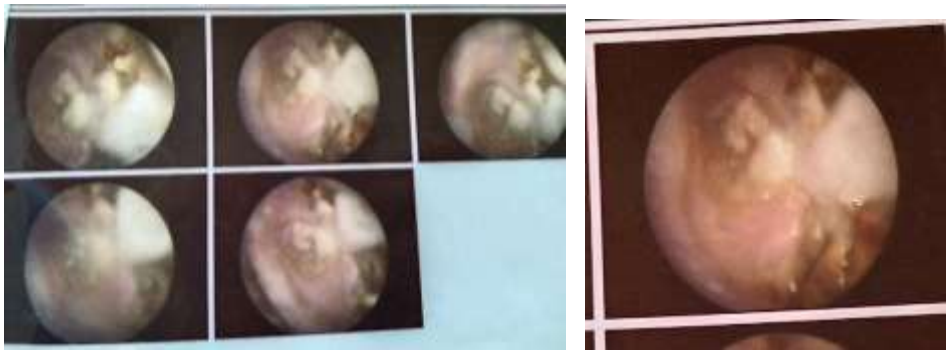

Figure 3: Ear endoscopy revealing Cholesteatoma (L).

The patient had normal biochemical parameters and vitals. Her CRP was slightly to a value of 9.5 g/dL. The exuduating purulent discharge was collected for Culture & Sensitivity, revealed presence of Klebsiella pneumonia. She was treated with CEFOPERAZONE + SULBACTAM 1.5 g IV BD for 3 days, anti-inflammatory agents, pain relievers, antihistaminic, auricular antibiotics (CIPROFLOXACIN).

She subsequently underwent Modified Radical Mastoidectomy (MRM)-Left. Epitympanic, mesotympanic, mastoid cavity areas were occupied by cholesteatoma. Posterior canal bone was eroded. The semicircular canals were all intact and proper. She showed good outcomes and normal hearing, with no recurrences, in a prospective post OP period of 2.5 years.

Discussion

The term Cholesteatoma was first explained by Joseph-Guichard Duverney as a well demarcated, non-cancerous, lesion/ growth. Cholesteatoma is a cystic structure outlined by stratified keratinizing squamous epithelium, which is potential enough to destroy adjacent tissues. This can be categorized as congenital or acquired. Otalgia, ear discharge, hearing loss, vertigo, tinnitus are common manifestations of acquired cholesteatoma. Facial nerve paralysis is characteristic of giant cholesteatoma [1]. Here, the present case was presented with chronic ear discharge and ear pain since 1 year. If at all the cholesteatoma sac is not removed completely, this can form residual recurrent cholesteatoma [2].

Cholesteatoma often remains asymptomatic and under diagnosed for several years. This has contributed to large number of complications [3]. One of the differential diagnoses of Cholesteatoma is Bell's palsy. Often Cholesteatomas are presented with soft tissue lesion with retracted tympanic membrane, eroded tympanic tegmen and ossicles on both CT and MRI [1]. Similarly, this case showed a lesion and cholesteatoma sac filling the mastoid cavity with tragal tenderness and intact TM. There are several theories regarding pathogenesis of Cholesteatoma. Most commonly suggested two theories are as follows: First, might be due to an underlying osteitis caused by minor trauma to the ear canal tissue. Osteitis can further cause proliferation of affected bone by squamous epithelium. Secondly, occurrence can be associated with progression of age. Reasons can be production of drier wax adherent to ear canal, decrease in epithelial migration [4-6]. Secondary causes can be post inflammatory, post operative,

post irradiatory[1-6]. In our patient no significant etiological factor was identified. How so ever, we hypothesize that she might had an osteitis of tympanal bone, that explains the history of frequent ear pain.

Squamous cell carcinomas are seen and has been reported with both primary and secondary cholesteatomas [7,8]. Upregulation of p53 is believed to be associated with increased cell proliferation in Cholesteatomas. HPV 6, 11 expressions accessed via PCR was 3.1 % to 27.3 % in different studies [9-11]. Treatment may be conservative or surgical. Removal of debris, curettage of necrotic bone are conservative technique. Surgical procedures are adopted to reduce the chance of complications.

Empirical antibiotics are given prior to culture reports, along with anti-inflammatory agents, pain relievers. However surgical procedure aims to create a dry environment which further prevents recurrence of the same. In our patient involvement of mastoid bone was the main indication for the surgery. She underwent Modified Radical Mastoidectomy. Post operative period was uneventful and we were able to preserve the tympanic cavity and adjacent structures with minimal or no involvement of facial/ inner ear.

Conclusion

The symptoms are not specific, but are similar to that otitis media. Hence a CT scan is essential to rule out conditions with similar characteristics. Cholesteatomas are often misdiagnosed as schwannoma, bell's palsy due to lack of characteristic feature presentation. The prompt diagnosis will help in figuring out severity of disease. Curettage of the necrotic bone, removal of debris remains the milestone of the treatment.

Competing Interest

The authors declare no competing interests.

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