

Cholesterol Granuloma of External Auditory Canal: A Case Report

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Abstract

Background: Cholesterol granuloma is a histological term used for the description of a tissue response to the presence of an irritant foreign body, i.e. a cholesterol crystal. we report a cholesterol granuloma occupying the EAC of a 17 year old teenage girl.

Case Presentation: A 17 years old teenage girl presented with active otorrhea in the right ear. On physical examination the pink mass was visible in the right ear canal and the radiologist reported an expansile well-marginated lesion.

Conclusions: A cholesterol granuloma presenting as a mass. A CT scan, the following conditions were considered, and do not routinely require surgery.

Conflicts of Interest: The Authors declare no conflicts of interest.

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Background

Cholesterol granuloma is a histological term used for the description of a tissue response to the presence of an irritant foreign body, i.e. a cholesterol crystal (1).

These crystals are associated with pathological conditions of pneumatized spaces, including those causing inadequate aeration, obstruction of drainage, and hemorrhage in pneumatized spaces, and where trapping materials, such as hemosiderin or cholesterol become trapped, and then form a cholesterol granuloma (2).

In otology, it is not uncommon to find these masses in the middle ear, mastoid, and petrous apex (2).

Here, we report a cholesterol granuloma occupying the EAC of a 17 year old teenage girl. The granuloma was diagnosed via temporal bone HRCT and surgically excised.

Case Presentation

A 17 years old teenage girl presented with active otorrhea in the right ear, and she was referred to Shahid Beheshti hospital in Abadan.

The patient complained of otalgia starting from 4 months ago with no response to antibiotic therapy and hearing threshold was normal. On physical examination the pink mass was visible in the right ear canal and the radiologist reported an expansile well-marginated lesion with a thinned overlying bone in the right ear which suggested a cholesteatoma or cholesterol granuloma.

Finally, excisional biopsy was performed, the lesion was completely removed and cholesterol granuloma was reported in the pathology evaluation.

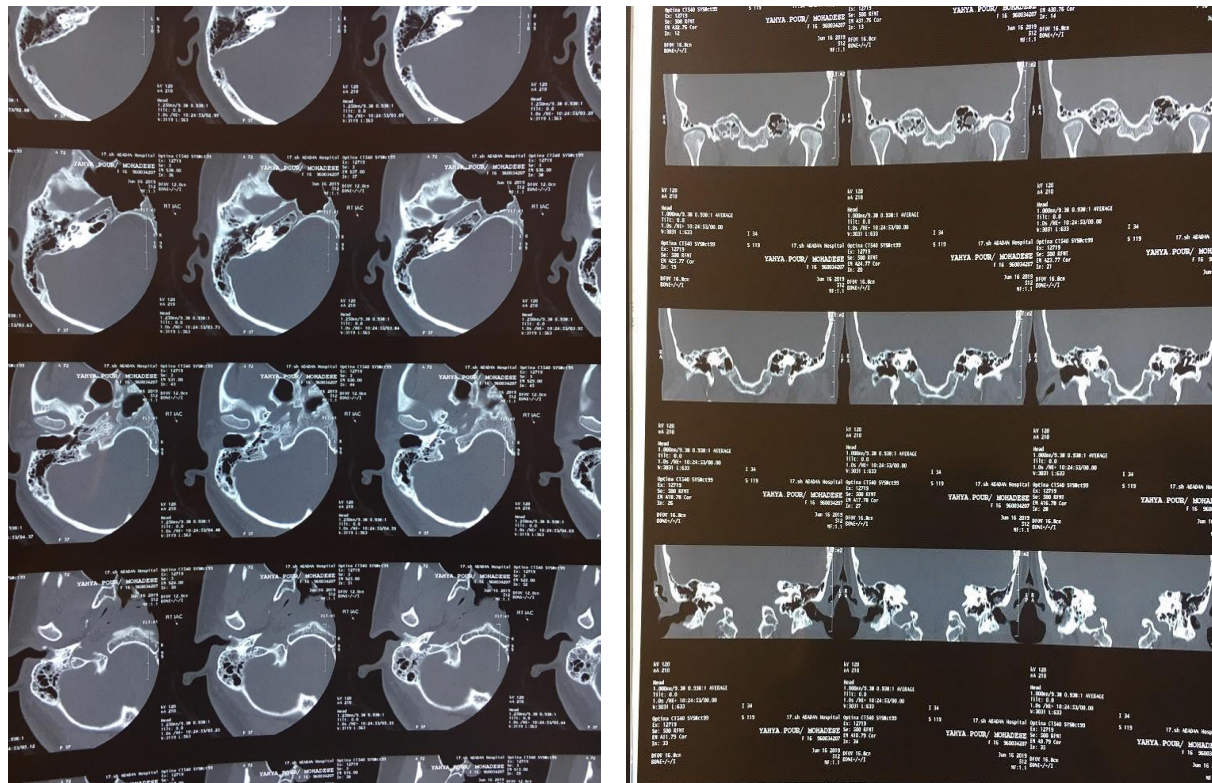


Figure 1- A pre-operative temporal bone CT scan showed an expansile well-margined lesion with a thinned overlying bone in the right ear in axial axis (right figure) and coronal axis (left figure).

Discussion

Cholesterol granuloma is a histological term used to describe a tissue response to a foreign body such as a cholesterol crystal. It has been suggested that the major causes of cholesterol granuloma are related to a number of diverse middle ear diseases: insufficient ventilation, obstruction of drainage, hemorrhage into pneumatized spaces, and chronic inflammation (3).

Upon repetition of the inflammatory reaction and additional hemorrhage, a cholesterol granuloma formed a large mass in the EAC involving the lateral aspect of the temporal bone which appears to support the local hemorrhage theory proposed by Friedmann (4). The lesion may have originated inside of the tympanic bone of the EAC, and expanded to the mastoid and EAC (5).

In this patient, the mass was excised through excisional biopsy. As a result of surgical intervention, the patency of the EAC was

maintained without the post-operative complications of necrosis or stenosis.

A cholesterol granuloma in the EAC in a young child is rare. The authors of this case reported a rare cholesterol granuloma in the EAC of a 17-year-old girl that was diagnosed by a pre-operative CT scan, and surgically removed, without any complications. Normal hearing was restored after surgery. Even in rare diseases, patients can be treated safely through proper diagnosis and appropriate treatment.

Conclusions

A cholesterol granuloma of external auditory canal presenting as a mass and causing total stenosis of the EAC in a young child is quite rare. When a well-margined isodense mass obstructing the EAC with an eroded mastoid cortex and no middle ear or mastoid antrum involvement was revealed on a CT scan, the following conditions were considered in the differential diagnosis: a cholesteatoma, otitis

externa, or a rare neoplasm of the temporal bone, including a malignant or benign tumor such as a mucinous cyst or a branchial cleft cyst (5). Cholesterol granulomas do not routinely require surgery. However, surgical intervention may be considered based on the size and location of the lesion, the existence of symptoms, and the necessity for diagnostic confirmation (6, 7).

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