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External Auditory Canal Cholesteatoma: About 02 Cases

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ABSTRACT

External auditory canal cholesteatoma is a very rare entity, representing 0.1 to 0.5% of the otological pathology, carrying the same characteristics as that the middle ear cholesteatoma.Its location may be associated to other affections due to the large variety of differential diagnosis, benign or malignant cases which are far more frequent than the cholesteatoma.The diagnosis is mainly clinical, the therapeutic management consists on a surgical procedure which depends on the stage of the disease. Known for its slow evolution, and the risk of recurrence, the external auditory canal cholesteatoma requires a clinical and radiological surveillance that can extend over several years. Our work focuses on the study of diagnostic modalities and therapeutic management through two hospitalized cases treated in the ENT and CCF department of Rabat Specialty Hospital.

Introduction

The external auditory canal (EAC) cholesteatoma is defined as an invasion by squamous epithelioma in a located area of the EAC and an erosion of the underlying bone. (1) It's a rare entity, representing 0.1% to 0.5% of the otological pathology (2) and that's especially because of its localization. It almost concerns elderly people. (3)

The EAC cholesteatoma has the same characteristics as the more common one, in the middle ear, by it's way of evolution that could take many years, and it's agressivity that could be responsible of serious damages.

We're exposing 02 cases of 02 young women, exposing diagnostic and therapeutic modalities and also some elements of confusion.

Case 01:

It's about a 18 years old girl without any medical history which is suffering from earaches and otorrhea after each exposition to water in her left ear for about 10 years.

The otoscopic examination reveals 2 polyposis, one in the anterior side of the conduct and the second one in the superior. The small part of the tympanic membrane that is able to be seen looks normal local medication. We also notice an incomplet regression of the polyposis size with normal aspect of the tympanum.

No deafness was detected in the audiometric evaluation (Fig1).

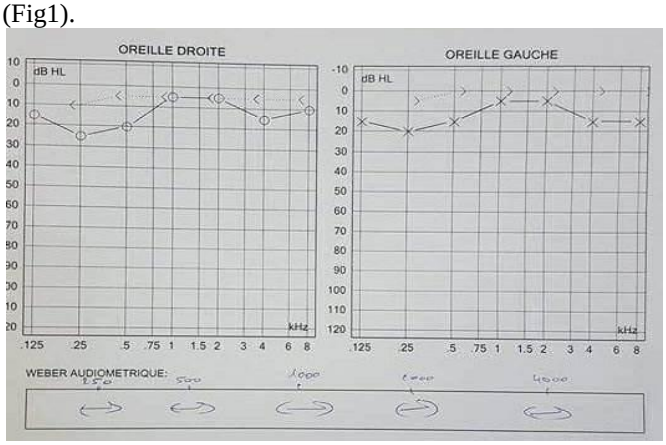

Fig 1. Audiometry tonale.

The CT-SCAN in the left ear shows an osteolysis of the tympanal bone. The middle ear looks clear, the ossicular chain, the attic wall and the tegmen tympani were normal. (Fig2)

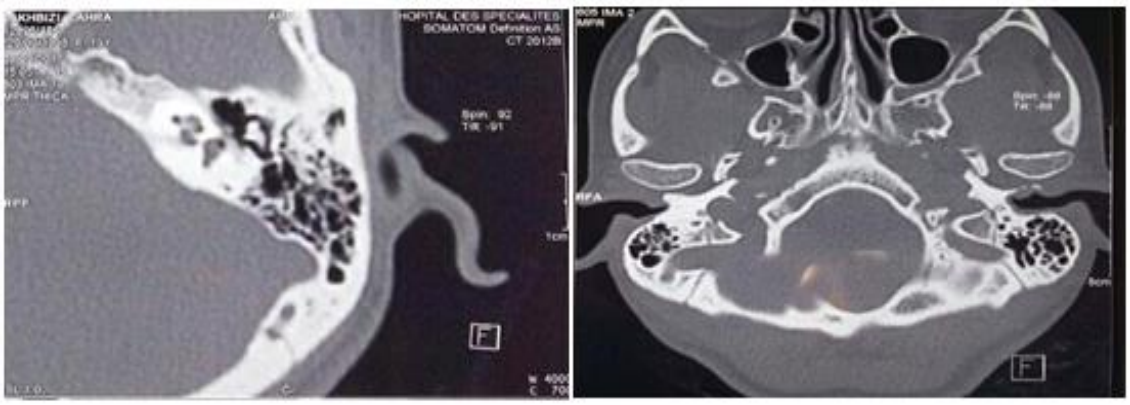

Fig2. CT-Scan image of the temporal bone with axial section showing the thickening of the CAE and the lysis of the tympanic bone with the eardrum which is free.

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A posterior tympanoplasty was performed by decollement of the tympano-meatal flap revealing a normal looking tympanum, and an attic free of cholesteatoma. (Fig 3) The procedure consisted on shaping the EAC in antero-inferior sides, then an anatomopathological examination of all the lysed and/or puffed bone part revealing an aspect in favor of cholesteatoma.

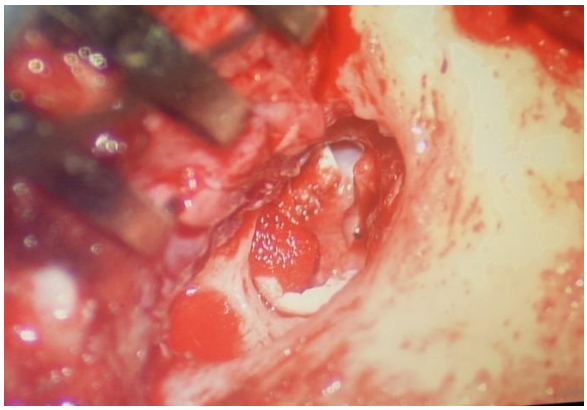

Fig3. Eardrum free of cholesteatoma.

Case 02:

It's about a 36 years old woman suffering from repetitive (fetides) otorrhea in the right ear since childhood.

The otoscopic examination reveals a lysis of the anterior side of the external auditory canal (mise à nu) of the tympanal bone. The tympanum (est siege) of an attical perforation and we can see the presence of cholesteatoma through. The CT-SCAN with an 5epaississement) of EAC with a lysis of the anterior side of the tympanal bone, (a comblement subtotal hypodense) of the middle ear with lysis of (pointe du mur de l'attique).

We performed a biopsy of the EAC which shows a cholesteatoma. A tympanoplasty (en tech ouverte) was performed.

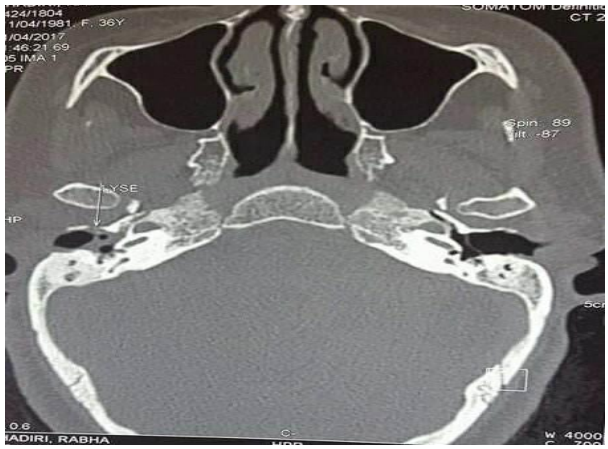

Fig2. Lysis of the right tympanal bone.

Discussion:

The first case of cholesteatoma was reported in 1850 by Toynbee at first.(3) Then, more other cases were reported by different researchers such as Schofield on 1893. The cholesteatoma can be defined in many ways. Johannès Muller defined it in 1838 as a lipoma made by superposed layers and concentric most of the time, adipose vesicles separated by a pearly oily substance composed of cholesterol, and stearin.(5) Other autors as Gray qualified it as "skin in the wrong place"(5), in reference to the presence of "skin" inside the middle ear. But in our case, it starts in the EAC. So we can say that the skin is in its right place but not its perfect structure. The problem with this structure is that it can migrate and be responsible for all the damages caused by the cholesteatoma.

In some cases we can be confronted to cholesteatoma in both external and middle ear, which make difficult to identify the real origin of the cholesteatoma especially when the patient hasn't been followed up from the beginning such as the second case that we reported.

In 1980, the cholesteatoma was differencied from "Kératosis Obturans".(2)

The cholesteatoma pathogenesis is still poorly known to date. Some hypothesis were proposed such as the metaplasis theory, epidermic inclusion and the lateral migration.(6) The EAC cholesteatoma can be divided in 5 groups according to Hoet (7):

*Post operative
*post traumatic
*After the conduct stenosis
*Post inflammatory
*Spontaneus

The EAC cholesteatoma concerns especially elderly people.(2) Its evolution is very variable over time(8) and it can take many years as the case in our patients.

The otoscopic exam represent an essential part to the diagnostic, in addition to the evolutif characteristics of the pathology. It shows, most of the time, an erosion in a limited area of the EAC causing an exposure of lysed tympanal bone.

In the first case, it was about 2 polyposis in the conduct that hide the tympanal membran which was intact referring to the per operative examination.

It will be necessary to have in memory other diagnostic that could be taken for a cholesteatoma, such as cancer especially(9).

A classification of cholesteatoma has been setted by Shin et Al(2):

Stade I :Cholesteatoma of the EAC only
Stade II :Invasion of the tympanum, the eardrum and the EAC
Stade III :Déformation of the EAC and invasion of the mastoid cells
Stade IV :Lesions beyond the temporal bone

Thanks to this classification we can stadify our patients by assignig a stade 1 for the first one and a stade 2 for the second one. It will be necessary to be careful not to confuse a stage 2 with a typical eardrum cholesteatoma.

The treatement is surgical, and it depends on the stage. For the localated lesions, it will consist on debridement of necrotic tissue. For advanced cases, the reconstruction of the canal with mastoidectomy will be necessary if the mastoid cells are invaded. A clinino-radiological follow up is necessary in the long term due to the risk of recurrence even with good operative control.

A CT Scan is recommended within 12 to 18 months postoperatively, an MRI may be required if in doubt about recurrence. (7)

Our patients currently have a decline of 2 months for the 1st case and 4 months for the 2nd with satisfactory clinical control.

Complications include labyrinthine fistula, acute labyrinthitis, peripheral facial paralysis affecting the 3rd portion of the facial nerve and meningoencephalitis complications such as meningitis, cerebral abscess, or lateral sinus thrombophlebitis.(7)

Conclusion:

The cholesteatoma of the external auditory canal is a rare lesion, with an invasive low-noise capacity leading to serious damages.

Given the richness of the benign and malignant pathology of the external auditory canal, the contribution of a good clinical and radiological examination and even histology is always useful to support the diagnosis for a good surgical management.

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