External Auditory Canal Cholesteatoma: About 02 Cases
ENT Department of the Hospital of Specialities, Rabat.

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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 aggressivity 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.
A posterior tympanoplasty was performed by
decollement of the 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.

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 (sepaissement) 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.

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 authors 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
*Spontaneous

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 treatment 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 mastoectomy 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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