Journal of Medical Case Reports and Reviews
Received 05 Feb 2023 | Revised 07 Feb 2023 | Accepted 04 Apr 2023 | Published Online 06 Apr 2023

DOI: https://doi.org/10.52845/JMCRR/2023/6-4-1
JMCRR 06 (4), 1265–1268

ISSN (O) 2589-8655 | (P) 2589-8647 IF:2.964

A Case Report

Osteoma of the external auditory canal, a case report

Fatma Ajlani[1], Rabie Ben Hammouda[1], Abir Mnif [1], Khaled Charrada [1], Sana Ferchichi[1], Aymen Azaiez [1], Ghada Kharrat [1], Salem Mansour [1], Emna Chelbi [2].

1. *ENT department Taheur Maamouri Hospital in Nabeul, Tunisia*

2. *Anatomopathology department Taheur Maamouri Hospital in Nabeul, Tunisia*

Abstract:

Aim: To describe an original case of osteoma of the external auditory canal and and to determine its clinical characteristics and surgical treatment.

Observation: We report the case of a 34-year-old patient with no notable history, who consulted for right hearing loss with episodes of recurrent otorrhea. Otoscopy showed a formation obstructing the right external auditory canal. The formation was non-painful, non-pulsatile and hard in consistency. Tonal audiometry showed conductive hearing loss at 40dB on the right. A Cone Beam noted a pedunculated centimetric bone density growth. Surgical excision was performed via the endaura approach. Histological examination confirmed the diagnosis of osteoma. The subsequent evolution was good with a follow-up of 3 months.

Conclusion: CAE osteoma is rare. It is a benign and slowly growing tumor with rare complications. The treatment is surgical.

Keywords: Osteoma,external auditory canal,non-painful

Supplementary information The online version of this article (https://doi.org/xx.xxx/xxx.xx) contains supplementary material,which is available to autho-rized users.

Corresponding Author: *Dr. Fatma Ajlani, ENT department Taheur Maamouri Hospital in Nabeul, Tunisia*

Introduction:

Osteoma is a rare, benign, slow-growing tumour composed of well-differentiated bone tissue [1, 2]. The pathophysiology is unknown [2]. Depending on the site of origin, it can be classified as peripheral arising from the periosteum, central arising from the endosteum, or extra-skeletal arising in the muscles [3]. It usually involves the craniofacial bones, while rare locations include the larynx, neck, long and temporal bones [2]. We present a case of a

rare location in the external auditory meatus (EAM). In the light of a review of the literature, we discuss the radio-clinical presentation and the therapeutic course.

Patient and Observation :

Mr S.S. was 34 years old with no previous history of otitis or exposure to cold water (e.g. scuba diving, surfing, etc.). He had consulted us for a progressive right-sided hypoacusis that had been evolving for 6 years, with episodes of non-fetid right-sided otorrhea that was rythmed by bathes, and without any other associated ENT signs.

Otological examination found a bony, round, non-painful, non-pulsatile, hard EAM formation filling 75% of the lumen with inflammatory skin opposite, the eardrum not seen and the mastoid region was healthy. The contralateral ear was normal. There was no evidence of peripheral facial palsy. No adenopathies were noted (Figure 1).

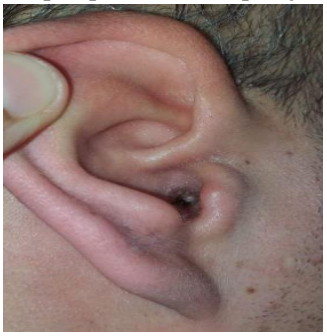

Figure 1: Formation of the right EAM

A pure tone audiometry showed a conductive hearing loss of 40 dB on the right. A Cone beam computed tomography of the temporal bone was performed showing a pedunculated, centimetric, bone-dense growth abutting the wall of the right EAM with no evidence of local aggression and a normal middle ear (Figure 2).

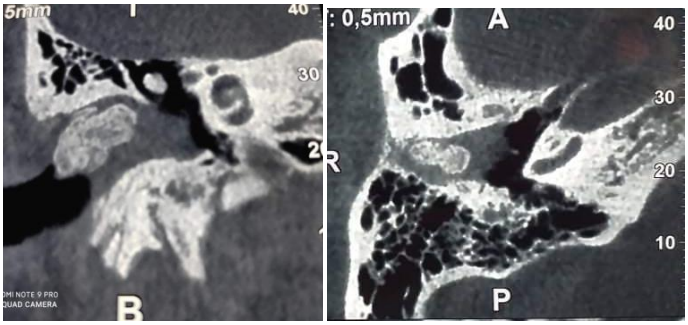

Figure 2: Cone beam computed tomography of the temporal bone in coronal and axial section showing a bone density outgrowth of the right EAM

After controlling the inflammatory episode, surgical removal under general anaesthesia of the formation by endoaural approach was performed with reaming and sizing of the EAM (Figures 3 and 4).

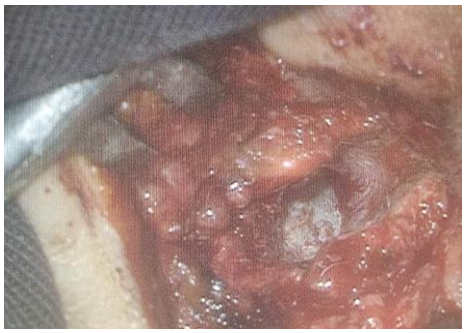

Figure 3: Endoaural approach: tumour removal with reaming of the EAM

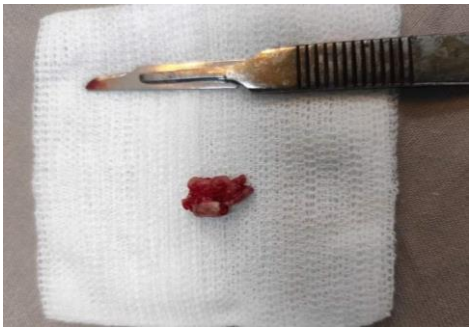

Figure 4: Surgical specimen

Pathological examination confirmed that the tumour was made up of trabecular bone and the final diagnosis of osteoma was retained. The subsequent evolution was good with a 3-month follow-up (Figure 5). A tone audiometry at 3 months was normal.

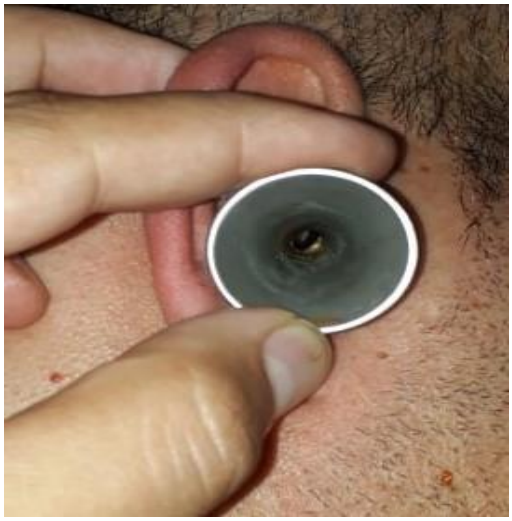

Figure 5: Clinical outcome after one month

Discussion:

Osteomas of the EAM are exceptional but remain the most common tumours of the temporal bones [4]. Their incidence is 0.05% of all otologic surgery [5]. They are most common in young males (40-50 years) [1].

They are benign lesions that grow slowly [1,2]. They are generally asymptomatic, unilateral and are discovered incidentally [1,2]. Depending on their anatomical location and extent, osteomas of the EAM may be responsible for hearing loss, otorrhea and recurrent cerumen plugs [3]. They can even lead to serious complications such as cholesteatoma of the EAM, mastoiditis, labyrinthitis and pachymeningitis of the EAM[6,7].

Osteomas can occur as part of Gardner's syndrome, which includes cutaneous and mesenteric fibroids, multiple osteomas, multiple intestinal polyps and epidermoid inclusion cysts [1,3].

A CT scan of the temporal bone is necessary to study the lesion, its extensions and possible complications. It shows a very dense, homogeneous, well-limited, unilateral opacity without soft tissue involvement attached to the supporting bone by a pedicle [6,8].

The differential diagnosis includes benign and malignant lesions such as: exostoses, ossifying fibroma, Paget's disease, osteosarcoma, chondroma, osteomyelitis and fibrous dysplasia [3]. Exostoses are a more common entity in the external auditory meatus than osteoma. They are multiple, bilateral reactive lesions associated with recurrent otitis externa and/or exposure to cold water. On imaging, they are characterised by a broad base and smooth edges [8,9].

Histologically, osteomas appear as lamellar bone with osteocytes surrounding the fibrovascular ducts [2].

The treatment of osteomas is surgical and is indicated if the lesion is symptomatic [6]. The principles of surgical treatment are complete removal of the entire osteoma and preservation of the intact EAM skin [10]. Surgery can be performed endoaurally or retroarticularly and the osteoma can be removed either with a burr and/or a curette. Post-operatively, chewing pain is frequent, healing is long and superinfections are possible. The risk of stenosis of the EAM requires close monitoring [10]. Recurrence is rare as long as the removal is complete [10].

Conclusion:

MAE osteoma is a rare entity, it is a benign tumour with slow evolution and rare but serious complications, the treatment is surgical based on complete removal of the lesion with post operative monitoring of the patient.

Conflicts of interest:

The authors declare no conflicts of interest.

Authors' contributions

All authors contributed to the writing of this manuscript and read and approved the final version

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