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External Auditory Canal Osteoma: A Case Report

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Abstract:- EAC osteomas are rare, benign, unilateral, solitary tumour, which are slow growing. usually asymptomatic and are found incidentally. But they rarely present with conductive hearing loss, otalgia, mass, aural fullness, tinnitus in large lesion completely occluding the EAC. Diagnosis is based on clinical examination, radiographic imaging, and histopathology. They are often confused with EAC exostosis and must be differentiated from EAC osteomas. We present a case of 28yrs old male patient presented to ENT Department with complaints of mass in the right external auditory canal for 1 year and decreased hearing and blocking sensation in the right ear during the last 3 months. After examination and imaging, it was diagnosed as right EAC osteoma. surgical excision via post auricular approach was done.

Keywords:- *Osteoma, EAC, Exostosis.*

I. INTRODUCTION

EAC osteomas are rare, benign tumours which are unilateral, solitary, pedunculated mass arising from the lateral part of the bony EAC.[1] They are slow growing. Incidence estimated to be 0.05% of total Otologic surgery. [1] Osteomas have been described in all regions of the temporal bone, including the middle ear, internal auditory canal, semi-circular canals, squamous temporal bone, mastoid and in the external auditory canal.[2] They are usually asymptomatic and discovered incidentally. They rarely present with conductive hearing loss, otalgia, aural fullness, Tinnitus, or mass in EAC. Diagnosis is based on clinical examination, radiographic imaging, and histopathology. Here we present a case of Rt EAC osteoma.

II. CASE REPORT

A 28 year old male patient presented to ENT outpatient department with complaints of mass in the right external auditory canal for 1 year. He also complained of decreased hearing and blocking sensation in the right ear during the last 3 months. They were insidious in onset and gradually progressive, no aggravating and relieving factors. There is no history of ear pain, discharge, tinnitus, giddiness. He denied history of swimming or trauma.

On clinical examination, mass is seen completely occluding the EAC. It is hard in consistency, non-tender. Tympanic membrane could not be visualised due to complete occlusion of EAC. A pure tone audiometry revealed a 45 dB conductive hearing loss while another ear was normal. High resolution CT scan of temporal bone revealed bony mass in the Right EAC measuring 2x0.7cm with underlying soft tissue density. Patient underwent excision of the Rt EAC osteoma under local anaesthesia using a postauricular approach.

After elevating the tympanomeatal flap, a mass is seen arising from the posterior wall, initially with the micro curette we tried to curette it out, then with the microdrill the pedicle was drilled, and osteoma was removed. Medially there was wax and keratin debris on removal revealed normal tympanic membrane. The ear canal is packed with gel foams. The mass was sent for histopathological examination. Post-operative period was uneventful, and patient was discharged on postoperative day3.

Histopathological Examination revealed features suggestive of osteoma which consist of lamellated bone surrounding fibrovascular channels with minimal osteocytes.

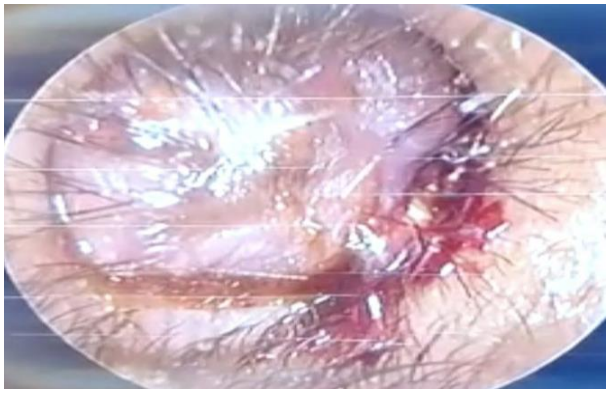

Fig. 1: Otoendoscopic image of Rt external auditory canal osteoma

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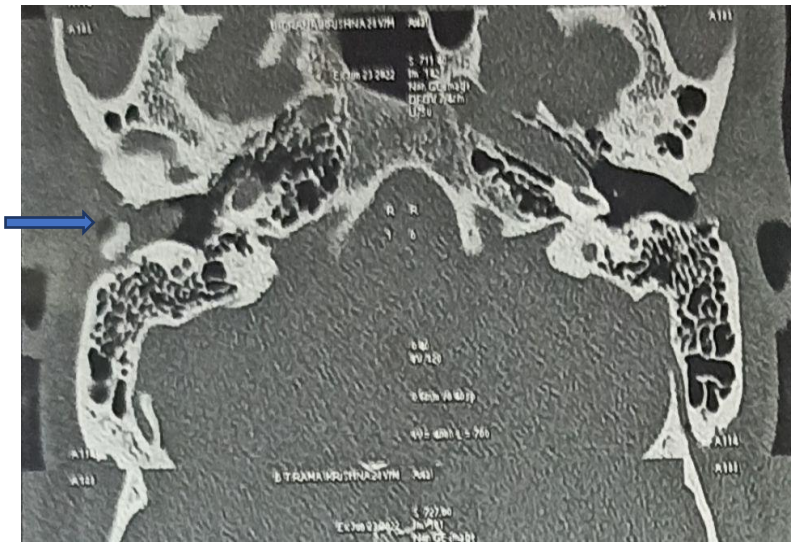

Fig. 2: HRCT temporal bone Axial view showing osteoma in the Rt EAC

Fig. 3: Coronal view showing Rt EAC Osteoma

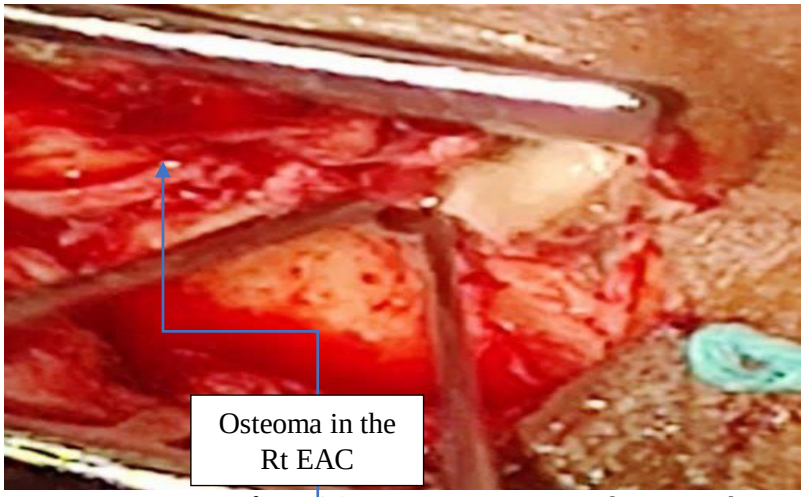

Fig. 4: Excision of Rt EAC osteoma via post auricular approach

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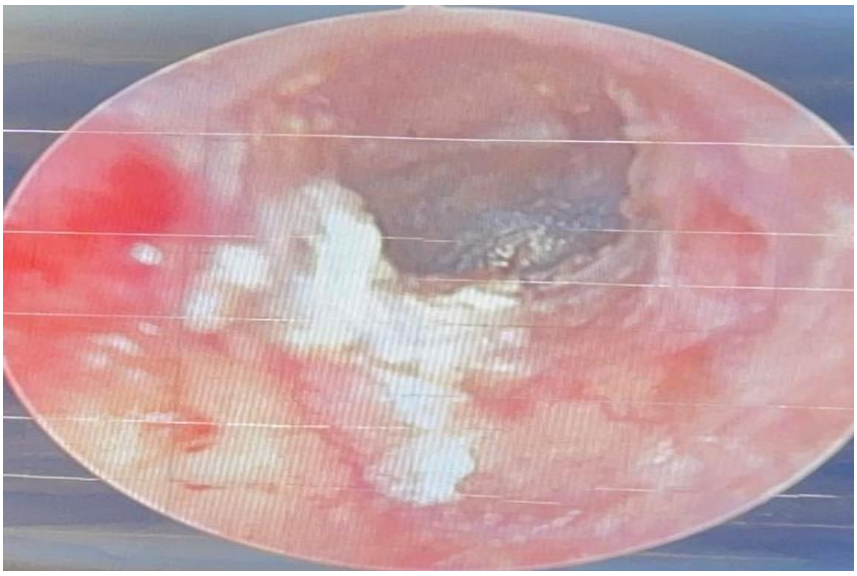

Fig. 5: Post operative image on day 3, intact tympanic membrane seen after the excision of osteoma

III. DISCUSSION

Osteomas are rare benign tumours of the temporal bone, that can present in any part of the temporal bone with EAC being the most common site. Osteoma of EAC usually arise in the lateral part of the bony EAC, and its base is located at the tympanomastoid or tympanosquamous suture lines.[3] The etiology of osteoma includes trauma, glandular causes like a pituitary dysfunction, surgery, radiotherapy, persistent infection. The precise etiology is still unknown, it is thought to be a true bone tumour.[4,5,10] But in our case, no such cause is present.

Osteomas are often confused with exostosis which share a very similar picture with osteoma in terms of presentation. Exostoses are multiple, bilateral, sessile, broad-based lesions. They are considered to be due to periosteal reaction secondary to multiple cold-water immersions[6] or repeated otitis externa.[7]

The main treatment for an EAC osteoma is a surgical excision. Management of the EAC Osteoma depends on the size and location of the osteoma as well as the severity of symptoms. For small, asymptomatic lesions regular aural toileting can be done. The primary defining factor for surgery is where the osteoma is in relation to the EAC isthmus. If located medial to isthmus, a post auricular approach is used, for tumours located laterally a transcanal approach is used.[8] But most preferred route is postauricular approach due to better exposure and complete removal. In our case, as the tumour is large and completely occupying the EAC and to ensure complete removal, excision of osteoma is done via postauricular approach. Typically, the osteoma is excised through its pedicle, and the base is drilled to reduce the incidence of recurrence. Complications of surgery can include injury to Tympanic membrane, ossicular chain, facial palsy, Temporomandibular joint injury, sensorineural hearing loss and stenosis of the ear canal.

A recent development in the field of osteoma surgery is the piezoelectric device. It is a bony scalpel that uses ultrasonic frequency micro vibrations so that soft tissues will not be damaged even on accidental contact with the cutting tip.[9]

IV. CONCLUSION

EAC osteoma are rare benign slow growing tumour. Usually asymptomatic and found incidentally. surgical excision is treatment of choice in symptomatic patient with large lesions.

REFERENCES

[1.] Sheehy JL. Diffuse exostoses and osteomata of the external auditory canal: a report of 100 operations. Otolaryngol Head Neck Surg 1982; 90: 337–42.
[2.] Gungor A, Cincik H, Poyazoglu E. Mastoid osteomas: report of two cases. Otol Neurotol. 2004;25:95-7.
[3.] Shankar Shah, S.T. Chetri, S. Manandhar ,et.al. Osteoma of the External Auditory Canal Masquerading as an Aural Polyp: Case Report and Review of Literature. American Journal of Medical Case Reports, 2013, Vol. 1, No. 1, 3-5.
[4.] Abhilasha S, Viswanatha B. Osteomas of temporal bone: a retrospective study. Indian J Otolaryngol Head Neck Surg. 2019;71(2):1135-9.
[5.] Sneha S et al. External auditory canal osteoma: a case report, Int J Otorhinolaryngol Head Neck Surg. 2021 Oct;7:1704-7
[6.] Michaels L. Neoplasms of the external ear. In: Ear, Nose and Throat Histopathology. London: Springer-Verlag; 1987;63-65.
[7.] Bilkay U, Erdem O, Ozek C, Helvacj E, Kilic K, Ertan Y,Gurler T. Benign osteoma with Gardner syndrome : review of the literature and report of a case. J Craniofacial Surg 2004; 15:506-9

[8.] Fisher EW, McManus TC. Surgery for external auditory canal exostoses and osteomata, J Laryngol Otol. 1994;108:106-10.
[9.] Angelo Salami, Renzo Mora, Massimo Dellepiane ,Luca Guastini. Piezosurgery® for removal of symptomatic ear osteoma. Eur Arch Otorhinolaryngol 2010;267:1527-30.
[10.] Mahalle S. Osteoma of external auditory canal associated with external auditory canal cholesteatoma and exuberant granulation tissue in mastoid air cell system: a rare association. Indian J Otolaryngol Head Neck Surg. 2019;71(2):1505-7. 7.