CASE SERIES

Osteoma of Temporal Bone: Case Series

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ABSTRACT

Osteomas are rare mesenchymal tumours which can be canalicular or extracanalicular.In our case series we are presenting both the type of osteomas of temporal bone to highlight the difference in presentation and management. EAC is the most common site of osteoma and squamous part of temporal bone involvement is rarely encountered. Clinical presentation of osteomas may range from painless bony mass in extracanalicular involvement to one causing tinnitus and ear discharge if present in the external auditory canal.The differential diagnosis include paget's disease, osteosarcoma, keratosis obturans. A high-resolution computed tomography of the temporal bone is the investigation of choice.The diagnosis can only be confirmed by histopathology whereby we see mature lamellar and woven bone with harvesian canal.

Keywords: Osteomas,Temporal Bone, Extra Canalicular.

INTRODUCTION

Osteoma is a mesenchymal osteogenic tumor that grows slowly. It is composed of well-differentiated bone and is benign in nature.[1,2] In the head and neck area, they mostly originate from the skull, mandible, and facial bones. Temporal bone osteomas are uncommon and primarily originate from the external auditory canal.[3] It is very uncommon to have extra-canalicular osteomas. Gardener's syndrome, prior surgery, radiation, trauma, persistent infection, and pituitary gland dysfunction are among the etiological factors causing osteomas. Case Series

Case 1

A 30-year-old woman's main complaint when she arrived at the outpatient department was a swelling in her right post-aural area that had been there for five months. The edema started slowly and progressed over time. There was no prior infection or history of trauma. Examining the area revealed a single, smooth, bone-hard swelling that was about 3 to 4 cm in diameter, globular in shape, non-erythematous, non-tender, and had normal skin covering it. This swelling was located immediately above the superior temporal line. The tympanic membrane and right external auditory canal were both normal. The non-contrast high-resolution computed tomography scan (HRCT) revealed an osteoma of the squamous portion of the temporal bone (Figure 1). Under local anaesthesia, the patient was taken up for surgical excision. Along the most noticeable portion of the protrusion, which ran from the superior to the inferior border of the bony mass, a 4 cm curvilinear incision was made. On both sides, a subcutaneous flap was raised. A mucoperiosteal flap with a posterior base was raised. From all sides, the bony lesion was clearly visible (Figure 2). The pedunculated mass was located anterosuperiorly, and drilling was initiated along the base and stalk edges. A gouge and a mallet were used to remove the bone lesion from the cortex. To achieve total excision and prevent recurrence, a polishing burr was used to remove the tumor's base. A pressure dressing was applied, and the surgical wound

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was closed. The time following surgery went smoothly. Osteoma was confirmed by the histology. After three months of follow-up, the patient has not demonstrated any clinical signs of recurrence.

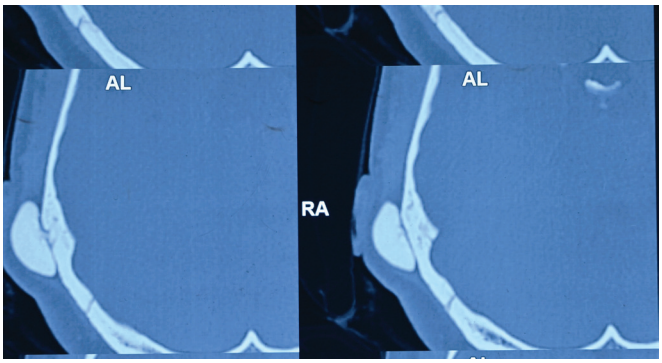

Fig 1: The (HRCT) revealed an osteoma of the squamous portion of the temporal bone

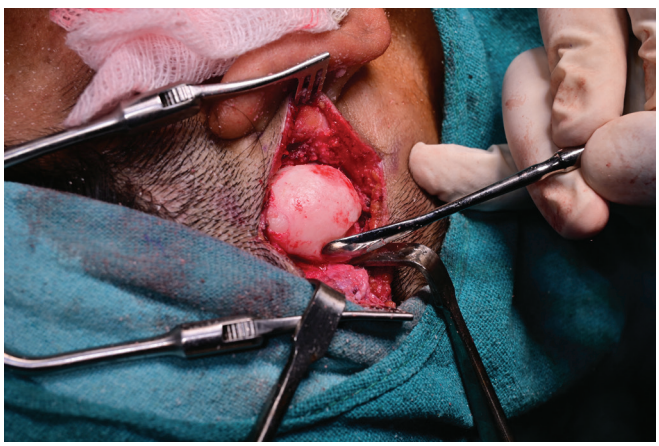

Fig 2: A mucoperiosteal flap with a posterior base was raised which clearly shows the bony lesion

Case 2

A 50-year-old man's main symptoms when he arrived at the ENT OPD were a blockage in his left ear and hearing loss that had been occurring for five years. It was accompanied by intermittent, purulent, foul-smelling, and sneaky-onset left ear discharge. Periodic bleeding from the EAC was documented. A hard bony mass in the external auditory canal was discovered during an otoscopic examination of the left ear. It was painless, not bleeding when touched, and not sensitive to touch. There was no visible tympanic membrane. Pure tone audiometry revealed 50 dB conductive hearing loss in the left ear. The HRCT revealed a bony lesion, an osteoma in the external auditory canal (Figure 3). The endoscopic picture of the lesion (Figure 4) Under local anaesthetic, the patient was taken up for surgery. The mastoid cortex was exposed using a post-aural technique. To dislocate and remove the bony lesion from the base, the tympanomeatal flap was raised, and canaloplasty was performed in the postero-superior quadrant of the EAC. Saucerization was carried out until all the tympanic membrane's edges were visible. After that, the tympanomeatal flap was reposited back. To avoid EAC stenosis, an EAC pack was kept, and a mastoid dressing was applied. Broad spectrum antibiotic was given postoperatively. The histopathological picture of the lesion (Figure 5)

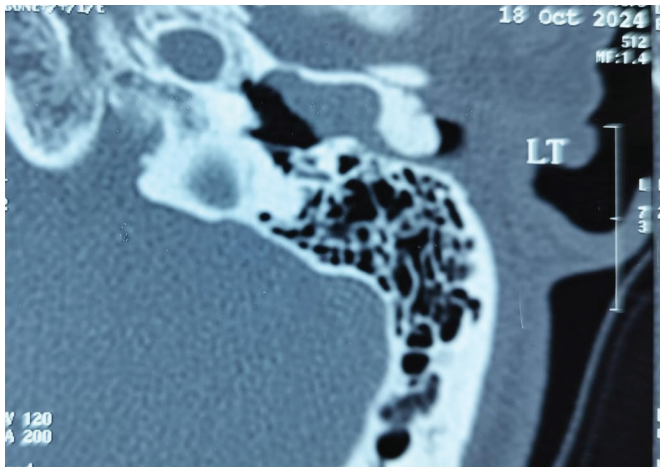

Fig 3: The HRCT revealed a bony lesion, an osteoma in the external auditory canal

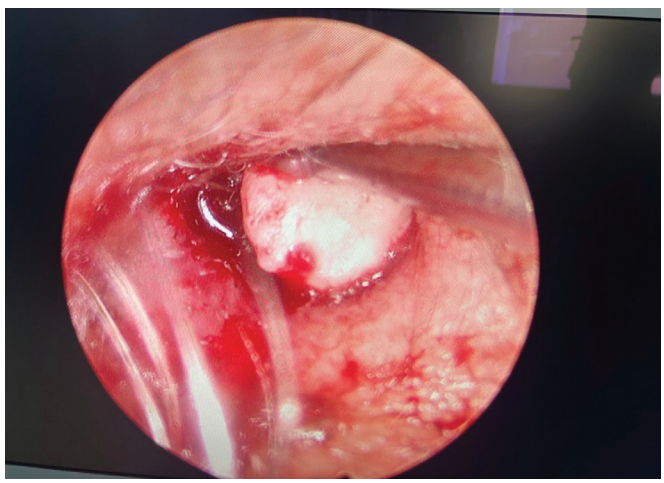

Fig 4: The endoscopic picture of the lesion

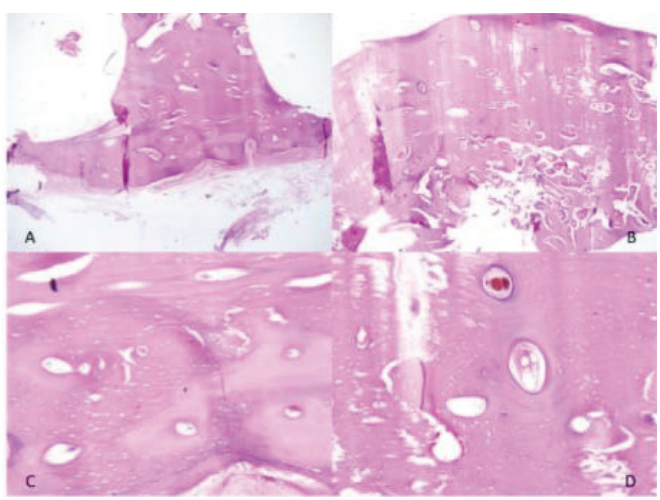

Fig 5: The histopathological picture of the lesion

DISCUSSION

Rare bony neoplasms are called osteomas. Its incidence ranges from 0.1% to 1% of all benign skull tumors. Temporal bone osteomas most frequently originate in the external auditory canal. The mastoid process is the most common extra-canal location for temporal bone osteomas1. Rare locations for osteomas in the temporal bone include the middle ear, petrous apex, internal auditory canal, and glenoid fossa.[5,6,7] We presented patients with the most and least prevalent osteoma sites in our case series. The most frequent place of incidence, according to the Graham et al. investigation, was the mastoid. The patient's symptoms depend on the tumor's location, size, and local spread. Patient comes for consultation for cosmetic concern when it occurs in the squamous part of temporal bone. Paget's disesase, osteosarcoma, osteoblastic metastasis, eosinophilic granuloma, giant cell tumor, fibrous dysplasia, and calcified mengioma are among the differential diagnoses for external auditory osteomas. Radiologically, Paget's can be identified by its coarsened trabecular pattern. Osteosarcoma will show up as an irregular lesion that extends intracranially and invades soft tissue. Calcified meningioma is indicated by well-defined, broad-based extraaxial lesions that are homogeneously enhanced and have calcifications. Giant cells in giant cell tumors and Langerhan's cells in eosinophilic granulomas aid in ruling out additional histological differentials. High-resolution, non-contrast CT scans are the best imaging technique. They seem like a clearly defined hyperdense lesion. A high-intensity signal on a T1 weighted MRI may indicate bone marrow inside the tumor.

The preferred course of treatment for temporal bone osteomas is surgical excision. Osteomas are divided into compact, spongiotic, and mixed subtypes based on histology.[1,7,9] Histology reveals lamellated bone with fibrovascular channels surrounded by few osteocytes.

CONCLUSION

Complete surgical excision of the osteoma of the temporal bone can be done under local anesthesia without compromising the surgical procedure, as has been done in cases.

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