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Case Report

A rare case of ivory osteoma of mastoid bone

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ABSTRACT

Osteomas are benign slow-growing bony tumour predominantly occurring in long bones, rarely found in the skull. In the skull they are found most commonly in fronto-ethmoid region. They are very rarely found in the temporal bone. They are usually asymptomatic and treated mainly for cosmetic purposes. We describe a case of a 33 years old female presented to us with right sided mastoid swelling from last 6 years.

Keywords: Mesenchymal osteoplastic tumor, Temporal bone tumor, Benign

INTRODUCTION

Osteoma is a benign tumour of mesenchymal osteoplastic nature composed of well-differentiated osseous tissue with laminar structure. [1] Osteomas are extremely rare in the temporal bone and mostly occur in the external auditory canal, while mastoid osteomas are rarer[2]. Temporal bone osteomas in general constitute 0.1% to 1% of all benign tumors of the skull. [3] Causes of mastoid osteoma reported in the literature included trauma, previous surgery, radiotherapy, chronic infection, and hormonal factors with dysfunction in the hypophyseal gland.[4] We present a case of mastoid osteoma presenting as a single painless swelling in the postauricular region.

CASE REPORT

A 33-year-old female presented to us at ENT open patient department, Dr RML hospital, New Delhi with a post auricular hard swelling in the right mastoid region. There was no associated pain, deafness, dizziness, or cranial nerve deficit. There was no history of scalp infection. The only complaint of the patient was the cosmetic deformity caused by this swelling for which she sought medical advice. It had been progressively becoming larger over the last six years. On examination, there was a bony hard, sessile, and non-tender swelling, 5cm×4cm in dimensions (Figure 1), and the overlying skin was free. Facial nerve function was intact and no exostosis was encountered in either of the external auditory canals. No other abnormality was detected with the rest of ear, nose, and throat examination. There was no significant abnormality in the ophthalmological and the rest of systemic examination. All routine laboratory tests were normal.

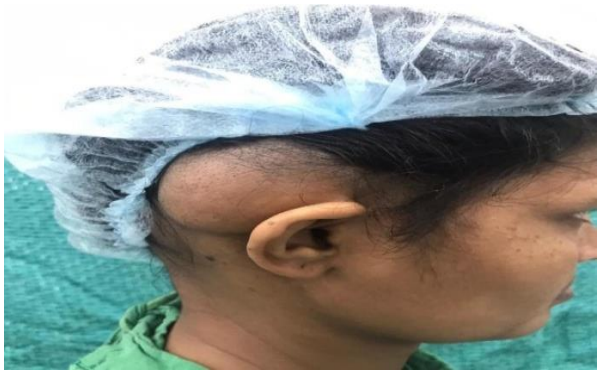

Figure 1: Patient presenting with swelling of right post aural region.

Contrast enhanced computed tomography (CT) of the right temporal region revealed a radiodense broad based pedunculated osseous mass lesion in the right mastoid and squamous temporal bone of size 5.22×3.42 cm (Figure 2). No radiological abnormalities were seen in the middle and inner ears. There is no evidence of another density in the temporal region.

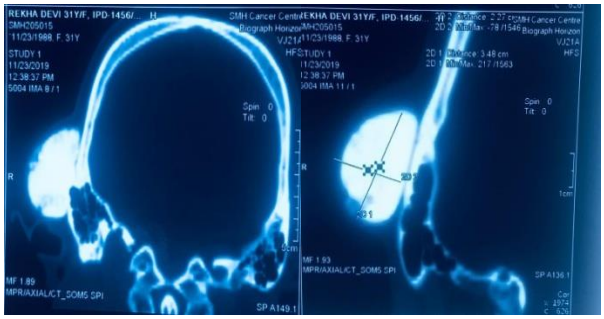

Figure 2: CECT of temporal bone sowing mass lesion.

Surgery

A Williamwilde's incision was given to provide complete exposure of the osteoma. A groove was drilled around the base and the osteoma was chiseled out in total (Figure 3). Since the mastoid air cells were encountered in the anterior part of dissection, a cortical mastoidectomy was done to ensure complete removal and prevent recurrence. The incision was closed in layers with a drain and stitches were removed ten days after surgery with no complications in the postoperative period.

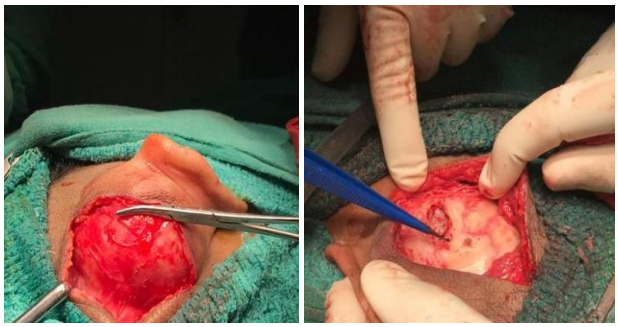

Figure 3: Intraoperative pictures.

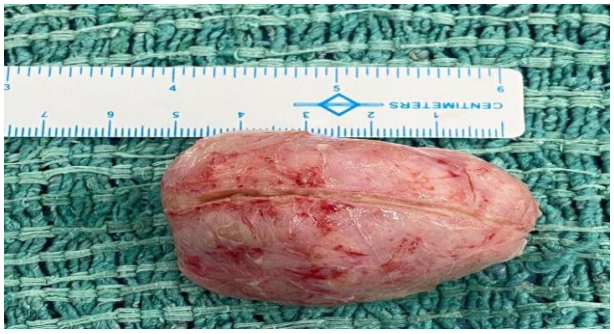

Figure 4: Specimen sent for histopathology.

Histopathology confirmed the diagnosis of Ivory Osteoma. At 3-month follow-up the patient was free of symptoms and there was no sign of recurrence or complications.

DISCUSSION

Osteoma of the mastoid bone is a benign tumor that is slowly growing and circumscribed in shape.[5] D'Ottavi et al reviewed 100 cases of mastoid osteoma and reported two cases of their own.[6] Amongst parts of the temporal bone, the external auditory canal is the most common location for osteomas, followed by the mastoid and the temporal squama.[7] The etiology of osteoma is unknown, but there is some evidence to suggest a congenital origin.[8] Embryogenesis and metaplasia following recurrent local irritation and trauma are the most commonly accepted theories for occurrence of osteoma. Osteomas usually occur singly, but when they are multiple, Gardner's syndrome must be ruled out. Osteomas in this case usually affect membranous bones as mandible and maxilla.[9] Osteomas of the skull may be compact, spongy, or mixed. Osteomas are mostly asymptomatic, but they can present with deformity, swelling, pain, deafness, and chronic discharge.[10] The differential diagnosis includes osteosarcoma and osteoblastic metastasis.

CT scanning is the imaging method of choice for mastoid and all other osteomas. The imaging appearance reflects the underlying pathology, with ivory osteomas appearing as very radiodense lesions, similar to normal cortex, whereas mature osteomas may demonstrate central marrow. It is seen as a high opacity, well-demarcated, and dense growth of sclerotic lesion from the mastoid bone.[1]

Mastoid osteomas are resected if symptomatic or for cosmetic reasons. The excision should be complete till the normal cortical bone is reached all around. If mastoid air cells are exposed, a cortical mastoidectomy should be done.[11] In the present case, the marked swelling, causing deformity, was the reason of excision. Because these lesions are limited to the external cortex, finding a plane of cleavage between the osteoma and normal bone is not difficult.[12] In the case presented, cortical mastoidectomy was done due to close attachment of the tumor to the mastoid cortex and its wide base.

The prognosis of such tumors is good. Due to the fact that mastoid osteoma may be a part of Gardner's syndrome, it should be followed carefully. Gardner's syndrome should be excluded in every case by doing ophthalmological examination or colonoscopy. Recurrence is rare and malignant transformation has not been reported.[11]

CONCLUSION

Mastoid osteoma is a slow growing, benign and rare tumour of the head and neck. It is usually asymptomatic with only cosmetic disfigurement. The investigation of

choice is computed tomography. When indicated surgical excision is carried out. Overall, with complete resection, recurrence is rare and patient achieves good cosmetic results. Temporal bone osteomas in general constitute 0.1% to 1% of all benign tumors of the skull and in them mastoid bone constitutes even lesser. This case is being reported due to rarity of the site at which it is located.

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Ethical approval: Not required

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