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Case Report

Rare case of mastoid osteoma: a case report

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ABSTRACT

Osteoma of the temporal bone is a very rare slow growing benign tumour of bone. They commonly arise from skull. Temporal bone osteomas are commonly present without symptoms, but may cause bony deformity, pain, and hearing loss depending upon the site. Osteomas may arise from external ear canals, but very rarely from mastoid bone. Aetiology is unknown and many theories are postulated like congenital, traumatic and infectious. Here, we are presenting a case of 30 years old lady, presenting with progressively enlarging hard lump behind right ear for 3 years. It was diagnosed as osteoma and confirmed by computed tomography (CT) scan. Complete excision is done until normal mastoid cortex/air cells are exposed.

Keywords: Osteoma, Temporal bone, Mastoid

INTRODUCTION

Osteomas arise from mesenchyme with osteoblastic nature with compact bone.[1] They are mostly found in the femur, tibia, spine, talus and humerus. In head and neck, they are more common in frontoethmoidal sinuses. In temporal bone, they are commonly found in external ear canal, but very rare in mastoid.[2] Temporal bone lesions constitute 0.1-1% of benign tumours of skull.[3] They can arise from all parts of temporal bone, including the squamous part, mastoid part, internal auditory canal, middle ear, Eustachian tube, petrous and styloid process.[4]

Most are asymptomatic. Sometimes, it may cause cosmetic deformity, by pushing the auricle forwards or it may be painful due to involvement of skull.[4] Usually, they are smaller than 10mm, but rarely, giant osteomas larger than 30 mm may develop.[5] Here we present a case of osteoma arising from mastoid bone which was resected completely.

CASE REPORT

30 years otherwise healthy female, presented with slowly enlarging painless lump behind right ear for three years. Initially, swelling was tiny, and for few months, it was growing rapidly. Since, she had to wear headphone always for her job, she started finding difficult to use headphone due to the lump and started having intermittent pain over the swelling. Apart from this, she did not have hearing loss or any other symptoms. Clinical examination revealed 3×3 cm lump in right postauricular region (Figure 1). It was hard, immobile and non-tender. Other ENT and head/neck examination was unremarkable.

Figure 1: Preoperative picture showing postauricular lump.

Computed tomography (CT) scan of temporal bone done which confirmed the diagnosis of osteoma of mastoid. CT scan showed 3×3 cm bony swelling over right mastoid encroaching mastoid air cell system (Figures 2 and 3). Since, the patient is having cosmetic and work related problem, excision was advised. Intraoperatively, 3×3 cm spherical bony lump seen over the mastoid cortex (Figure 4). Complete excision done (Figure 5) and a small piece of osteoma sent for histopathology. Histopathology confirmed the diagnosis. Patient made uneventful recovery with good cosmetic result.

Figure 2: Non contrast CT scan axial view showing osteoma of right mastoid.

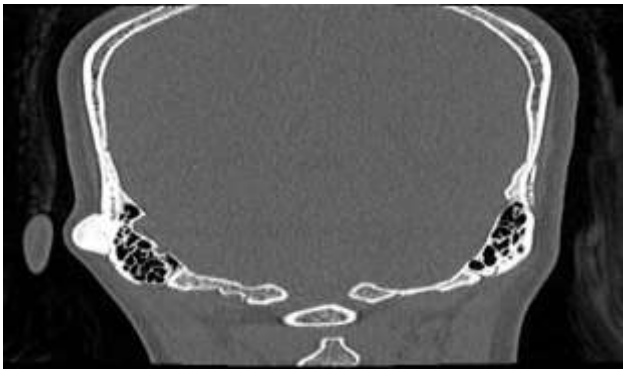

Figure 3: Non contrast CT scan coronal view showing osteoma of right mastoid.

Figure 4: Intraoperative picture showing osteoma.

Figure 5: Picture after excision of osteoma.

DISCUSSION

Osteomas are slow growing tumours usually composed of well-differentiated mature, compact or cancellous bone. Three types are reported- the central type develops from the endosteum, the peripheral type develops from the periosteum, and the soft tissue type originates within the muscle.[6] Facial bone lesions are both central and peripheral type. Paranasal sinuses develop peripheral type.[6] They commonly arise from cranial vault. Exostotic osteomas arise from outer table and enostotic osteomas arise from inner table.[7] Mandibular osteomas involving the angle, condyle, followed by the molar area of body and ascending ramus had been reported.[8]

They are common in frontal sinuses followed by ethmoid, maxillary and sphenoid in descending order.[7] Aetiology is varied, but none confirmed. Aetiology may be divided as syndromic and nonsyndromic.[9] In Gardener's syndrome osteomas usually arises from maxilla and mandible.[10] Aetiology of non-syndromic osteomas are postulated as developmental, traumatic, infective, post-surgical and irradiation.[11] Developmental theory postulates that they develop at the sites of embryonic fusion of tissues.[12]

Osteomas affect all age groups but are common in fourth or fifth decade of life and rare in children.[7]

Majority osteomas are asymptomatic. Patients may present with degree of asymmetry while paranasal lesions cause headache, pain due to neural irritation, exophthalmos and double vision. Pain in temporal bone lesions is due to breach of the bony inner table. In the neck region, pain maybe caused by irritation of great auricular or small occipital nerves. Hearing loss with recurrent ear infection can happen due to occlusion of external ear canal.[9] Fortunately, our patient presented for cosmetic reason only.

Non contrast CT scan is superior to magnetic resonance imaging (MRI) scan. They can be seen as a rounded dense lesion on the mastoid outer cortex with well demarcated margins. Rarely, they may extend up to horizontal semicircular canal and may encroach on facial nerve.[11]

There are 3 varieties of mastoid osteomas reported in literature as: compactum, cancellare, and cartilagineum based on histological appearance.[13] Compact osteomas very slow growing whereas spongy osteomas are fast growing.

Differential diagnosis from benign and malignant tumours can be made by radiology and histopathology.[1,14] Heterogenous, poorly delineated lesions with rapid growth suggest malignancy.

CONCLUSION

Mastoid osteomas of temporal bone are very rare,benign slow growing bony tumour. They are usually astymptomatic. Cosmetic disfigurement with pain justifies its removal. Non contrast CT scan is the radiological modality of choice. Complete surgical exision with drilling of mastoid cortex is needed to prevent recurrence. Postoperative cosmetic results are usually good.

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