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Case Report

A rare presentation of left postaural mastoid osteoma

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ABSTRACT

Osteomas are benign slow growing tumors of mesenchymal origin. Most commonly found along the long bones like proximal shaft of femur around 19% followed by tibia around 10% and head and neck osteomas around 0.1 to 1%. We report a rare case of postaural osteoma in a 44 year old female with cosmetic deformity and discuss its differential diagnoses and treatment protocol. A 44-year-old female presented to ear, nose and throat (ENT) outpatient department (OPD) with complaints of swelling in the left postaural region since 25 years gradually increasing in size. On examination, there was a single swelling in the left post aural region measuring about 4×5×3 (cms) hard in consistency and non-tender. Non contrast computerized tomography (CT) of temporal bone showed well defined extracranial dense sclerotic bony lesion arising from mastoid part of left temporal bone likely osteoma. Patient planned for excision and histopathological examination was consistent with osteoma. In conclusion, though osteoma in mastoid bone is a very rare possibility still it should be kept in consideration in the list of differential diagnoses of the tumors of temporal bone. We highlight the need for a careful clinical evaluation supported by radiologic and histopathological investigations which will help in the diagnosis, resulting in better prognosis.

Keywords: Postaural osteoma, Mastoid bone, Non contrast computerised tomography

INTRODUCTION

Osteomas are benign slow growing tumors of mesenchymal origin.[1] They form around 2.6% of all bone tumors. Most commonly found along the long bones like proximal shaft of femur around 19% followed by tibia around 10% and head and neck osteomas around 0.1 to 1%. In head and neck, they have a propensity to grow from outer table of cranium, jaw and paranasal sinus.[2]

Generally asymptomatic, might cause aesthetic and cosmetic complaints due to the gradual increase in size of the mass.[3] We report a rare case of postaural osteoma in a 44-year-old female with cosmetic deformity and discuss its differential diagnoses and treatment protocol.

CASE REPORT

A 44-year-old female presented to Ear, nose and throat (ENT) outpatient department (OPD) with complaints of swelling in the left postaural region for 25 years gradually increasing in size. She had no complaints of pain in ear, decreased hearing, aural fullness, tinnitus, giddiness and aural discharge. There was no previous history of surgery or trauma. There was an unsightly appearance due to increased size of swelling.

On examination, there was a single swelling in the left post aural region measuring about 4×5×3 cms hard in consistency and non-tender. Overlying skin was freely mobile and not associated with any discoloration, sinus or fistula. Left pinna, external auditory canal and tympanic membrane were normal. Right ear examination was

normal. Facial nerve was intact on both sides. No other swellings were present. Rest of the otorhinolaryngological examination was normal. Pure Tone Audiometry and Impedance Audiometry were found to be normal.

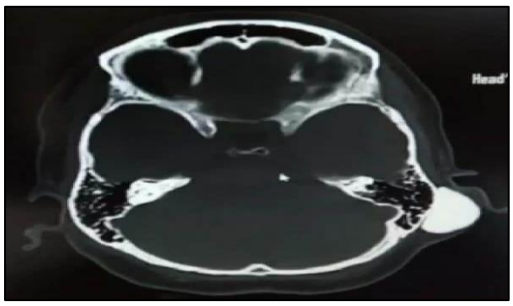

Figure 1: Computerized tomography showing dense sclerotic bone from left mastoid bone.

Figure 2: Intraoperative picture showing osteoma after elevation of periosteum.

Figure 3: Gross specimen of the osteoma.

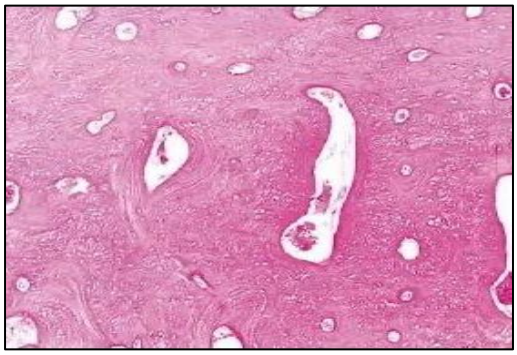

Figure 4: HPE showing Ivory osteoma.

Non contrast computerized tomography (CT) of temporal bone showed well defined extracranial dense sclerotic bony lesion (HU+1500) measuring 33 mm (cephalocaudal) × 31 mm (anteroposterior) × 20 mm (transverse) arising from mastoid part of left temporal bone likely osteoma. Middle ear was normal. There was no intracranial extension or bone indentation.

A probable diagnosis of osteoma was made, and patient planned for excision under general anesthesia. A modified postaural incision was placed to identify the osteoma and thus enabling its complete exposure. Osteoma was found attached to outer cortex and removed using drill till the normal mastoid air cells identified. Wound was closed in layers. Postop period was uneventful. Histopathological examination was consistent with osteoma showing dense sclerotic bone with no nidus. On follow up for a period of 2 years there were no signs of recurrence.

DISCUSSION

Osteomas are benign osteoblastic tumours composed of well-defined mature osseous tissue with a predominant laminar structure.[4] Most common site of involvement is frontoethmoidal region of paranasal sinuses. Osteomas of temporal bone are very rare. In temporal bone it is most commonly found in the external auditory canal followed by mastoid bone.[3,5] Other sites of occurrence reported are middle ear, styloid process, temporomandibular joint, apex of petrous temporal bone, glenoid fossa, eustachian tube and internal auditory canal.[6]

Mastoid osteomas are more common in females occurring in second and third decades of life. Whereas intra-canalicular tumours are more common in males.[7] They are slow growing painless tumours which are incidentally diagnosed on imaging. Most frequent complaints are cosmetic deformities and difficulty in wearing spectacles. Rarely there can be pain, facial palsy and hard of hearing due to involvement of neighbouring structures like facial nerve, inner ear and middle ear.[8,9]

Various aetiologies include genetic origin, trauma, surgery, radiotherapy, chronic infection and pituitary dysfunction.[10] Histologically three subtypes are identified-compact osteoma, spongiotic osteoma and mixed osteoma. Compact osteoma has haversian system and it is dense, sclerotic and round in shape. It is also called as ivory osteoma. It usually attaches to the mastoid cortex by pedicle or a wide base. Spongiotic osteoma has a spongiotic trabecular bone and fibrous cellular tissue such as marrow. This is also known as cancellous or osteoid osteoma.[5] Compact are more common than spongy osteomas. Mixed osteoma has features of both types. In our case it was found to be a compact osteoma on histopathological examination.

Syndromic association was found with gardeners syndrome, characterised by multiple intestinal polyps, epidermoid inclusion cysts, fibromas of skin and mesentery along with osteomas along membranous bones

like mandible and maxilla being more common.[11] Differential diagnoses are pagets disease, eosinophilic granuloma, metastases, fibrous dysplasia, ossifying fibroma, calcified meningioma and osteosarcoma.

Investigation of choice is non contrast computerised tomography in which osteoma appears as well demarcated, high opacity and dense growth of sclerotic lesion from mastoid bone.[12] The radiologic borders of other lesions are less clear than those of osteoma, which forms the most important diagnostic criteria radiologically.[13] Computerised tomography helps in anatomical reconstruction and to know the proximity to the surrounding important structures like facial nerve, sigmoid sinus and labyrinth. Thereby helps in planning the surgery.

Exostoses and osteoma are very similar in presentation and often misdiagnosed. Osteoma is usually single, unilateral and pedunculated mostly arising lateral to tympanomastoid or tympanosquamous suture lines. Whereas exostoses are multiple, broad based, bilateral and are found medial to suture lines, commonly found in water sport enthusiasts.

Surgery forms the mainstay of treatment. Common indications being cosmetic deformity followed by associated symptoms due to pressure over neighbouring structures.[12] Complication of osteomas include pressure over facial nerve and bony labyrinth. Complete excision is not indicated in such situations and leads to partial removal to avoid damage to these structures.[5,14] Recurrence and malignancy is reported to be very rare.[15]

CONCLUSION

In conclusion, though osteoma in mastoid bone is a very rare possibility, still it should be kept in consideration in the list of differential diagnoses of the tumours of temporal bone. Non contrast computerised tomography of temporal bone is the investigation of choice which helps in delineating the tumour in relation to the neighbouring vital structures like facial nerve and sigmoid sinus.

We highlight the need for a careful clinical evaluation supported by radiologic and histopathological investigations which will help in the diagnosis, resulting in better prognosis. Surgical excision of the tumour gives good aesthetic results, thus giving significant patient satisfaction.

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