



OSTEOMA OF TEMPORAL BONE: A CASE OF A POST AURAL SWELLING

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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 30YR OLD FEMALE WHO PRESENTED WITH HISTORY OF LEFT EAR DISCHARGE FOR 5YRS WITH SWELLING IN THE POSTAURAL REGION SINCE CHILDHOOD.

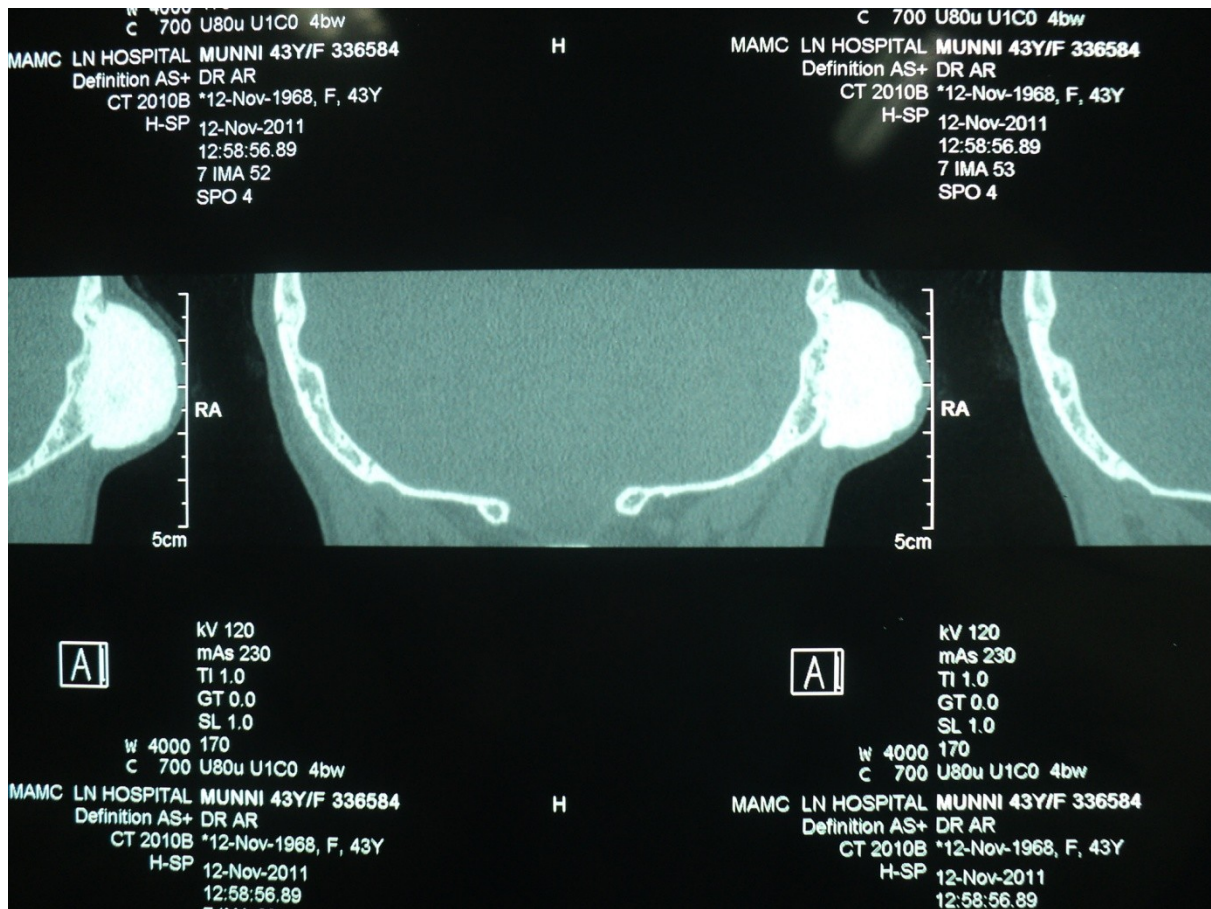
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Case Report

The patient is a 32 year old female who presented with the complaints of chronic ear discharge of the left ear since 5years with hearing loss in the same ear since 3 years. The patient also had a swelling in the post aural region since childhood which was gradually increasing in size and painless. There was no history of trauma, headache, dizziness neither any focal neurological deficit. On clinical examination the patient had a posterosuperior retraction pocket in left ear. There was a 4 x 4 cm spherical swelling in the post aural region which had a smooth surface, was bony hard in consistency, and immobile with attachment to underlying bone. PTA revealed mild conductive hearing loss in the left ear. An HRCT temporal bone was done which revealed a bony mass in left mastoid part of temporal bone measuring 3 cm x 3 cms. It originated from outer table of the skull with no evidence of destruction of the inner table or extension of the mass intracranially. Hence, a diagnosis of osteoma was made.

Patient was taken up for surgery of left atticotomy under general anesthesia, and during the procedure the osteoma was excised. It was found to have a broad base, which was thinned out using a bone drill and then removed in toto using a hammer and chisel. . The gross specimen was smooth, ivory white in appearance, ovoid in shape and about 3 by 3 cms. in size. Histopathology report was osteoma composed of compact bone. Patient recovered without any complications and there was no

recurrence in the 6 month follow up period







Discussion

Osteoid osteoma is a primary bone tumor accounting for 10% of all primary bone tumors.¹

It mostly occurs in long bones. In the skull it mainly affects the frontoethmoid region. Very uncommonly it affects the temporal bone. They are rare in the sphenoid sinus and extremely rare on temporal and occipital squama.² It is most frequently seen in teenagers and young adults and is very rare after 30 years of age. Although our patient was a woman, osteoid osteoma usually prevails in men with a sex ratio of 2:1.³ Most often they are localized on sutures. Except for cortical lesions that are seen initially as cosmetic deformities, these tumours are usually unsuspected roentgenographic findings. The main presenting complaint is headache, and is usually out of proportion to the size of the tumor. The symptoms of ear discharge and hearing loss experienced by our patient may be due to coexistent middle ear pathology. Surgical treatment of an osteoma is indicated when it is symptomatic i.e. dizziness, headache, deafness, discharge.⁴ Temporal osteomas have been found to produce intracranial complications, justifying surgical removal. It may produce

external deformity and push the pinna forward. Even though it is normally asymptomatic, it may produce pain by invasion of neighbouring structures or widening of periosteum. If located in the external auditory canal, it may lead to occlusion, progressing to chronic external otitis (30% of the cases) and conductive hearing loss.⁵

Excision is not mandatory, but if performed, the surgery should include careful removal of periosteal cover and safe margin of the mastoid cortex around it. If the tumor is close to significant structures such as bone labyrinth and facial nerve canal, a subtotal excision ensures preservation of function. Surgical complications thus include recurrence, facial nerve palsy, sigmoid sinus damage and sensorineural hearing loss.

The exact origin of osteoid osteoma has not been identified as yet. According to Haymann, it was due to a alteration in the growth of the cranial bones.⁶ Freidberg suggested it occurred as a result of trauma followed by periostitis.⁷ The clinical presentation and radiological features of osteoma are characteristic but differential diagnosis should include eosinophilic granuloma, giant cell tumour, monostotic fibrous dysplasia, a solitary multiple osteoma, and osteoblastic metastasis.⁸ One should also rule out Gardner's syndrome in patients presenting with large skull osteomas.

Radiological evidence aids diagnosis. On Computerised tomographic scans it appears as a dense radioopaque mass localised to the mastoid region, with well demarcated margins,

Three types of mastoid osteomas have been described, based on structural characteristics.^{6, 8,9}

- Compact: The most frequent one. Comprising dense, compact and lamellar bone, with few vessels and Haversian canals system. Those with dense sclerotic bone are called ivory osteoma. Compact osteomas have a wider base and are very slow growing
- Cartilaginous: Comprising bone and cartilaginous elements
- Spongy: Rare type. Comprised by spongy bone and fibrous cell tissue, with tendency to expand to the diploe and involving the internal and external lamina of the affected bone, have bone marrow and also known as cancellous or osteoid osteomas. They are more likely to be pedunculated and grow relatively faster.
- Mixed: Mixture of spongy and compact types.

Conclusions

Osteomas are tumors predominantly arising from the long bones and rarely from the flat bones of the skull. When present they should be treated as per the symptoms of the patient. Osteomas present within the ear need to be dealt with carefully, for fear of damage to vital structures. Osteomas present on the mastoid or squamous portion of the temporal bone need to be dealt with for cosmetic purposes or if they are causing symptoms.

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