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## OSTEOMA TEMPORAL BONE – RARE CASE

A woman of 25 years presented to E.N.T OPD with complaints of post aural swelling of 3 years of duration. Patients had no other complaints except a mass behind post aural region. Examination revealed 4x3 cm solitary, non pedunculated, nontender, hard mass behind the right ear. Under general anaesthesia the mass was exposed adequately and with cutting burr the bony mass was excised and sent for HP examination. Wound was closed in Layers and pressure bandage applied. Histopathology was reported as osteoid osteoma. This is one of the rare cases and reported for its important clinical significance.

**Key words:** osteoma, mastoid

### INTRODUCTION:

Osteomas are rare benign slow growing tumors of the lamellar bones. They are commonly seen arising from within the paranasal sinuses. Osteoma of the temporal bone occurs infrequently and when they occur is seen most commonly in the external ear canal. Osteoma originating from the middle ear is very rare. Those from the mastoid are rarer.

### CASE REPORT:

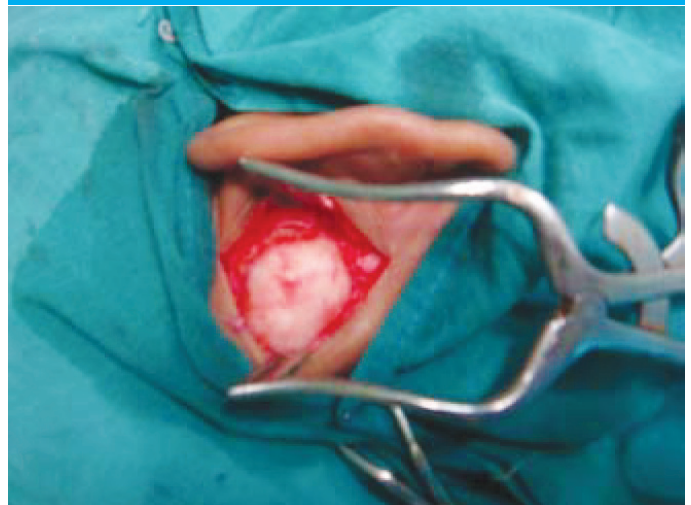
A 25 years old woman presented with slowly increasing swelling behind the left ear of three years duration. She had no history of trauma, ear infection and swelling caused no pain, ear ache, aural discharge, and vertigo or hearing loss. On examination the post aural swelling was 4x3 cm in size, non tender, hard and had well defined margins, overlying skin was free and showed no signs of inflammation. Rest of the E.N.T examination, audiometric testing and routine laboratory investigations produced normal results and there were no other remarkable features on general physical examination. X-ray mastoid lateral oblique view showed radio dense shadow in right temporal bone (Fig-1).

Fig 1: X-ray mastoid Lat Oblique View



She was taken up for excision of the osteoma under general anaesthesia. A modified postaural incision was given sufficiently behind the groove to expose the tumor completely (Fig-2).

Fig :2. Osteoma Intra Operative



After sequential dissection the osteoma was freed of all muscle attachments. A mastoid drill using cutting burr was used to excise the tumor. Finally the edges of the bone were polished with the round burr and the incision was closed in layers. She had an uneventful postoperative period. Histopathology confirmed an osteoid osteoma. She is being followed up in E.N.T OPD regularly.

### DISCUSSION:

Osteoma is a slow growing tumor formed by mature bone tissue. Stuart defined Osteoma as benign circumscribed slow growing tumor of the mastoid Bone.<sup>1</sup> Osteomas are commonly seen in the frontoethmoidal region. The most common sites of the osteomas are frontal sinus followed by ethmoid and maxillary sinuses. They are rare in the sphenoid sinus and extremely rare on temporal and occipital

squama.<sup>2</sup> Exostoses of the external auditory canal and mastoid have also been reported. It has higher incidence in female patients, predominantly in 2<sup>nd</sup> and 3<sup>rd</sup> decades of life and is rare in puberty.<sup>3,4</sup> Most often they are localized on the sutures, except for cortical lesions that are seen initially as cosmetic deformities. The main clinical symptom is headache of varying intensity and quality, and in most cases is not proportionate to the size of osteoma which ranges from the size of pepper to the size of child's head. Tumors involving the middle and inner ear are most frequently small and tend to remain stable in size. Consequently they are managed expectantly. Surgery is indicated in the cases of deafness, discharge, dizziness and headache.<sup>5</sup> Giant occipital osteomas can cause dizziness requiring surgical excision.<sup>6</sup> Temporal Osteomas have been found to produce intracranial complications justifying surgical removal. It may produce external deformity and push the pinna forward.<sup>7</sup> Even though it is normally asymptomatic it may produce pain by invasion of neighboring structures or widening of periosteum. If located in external auditory canal it may lead to occlusion progressing to chronic otitis externa (30% of the cases) and conductive hearing loss.<sup>3,8</sup> In present case the patient did not have any complaints and swelling was removed because of cosmetic reasons. Excision is not mandatory but if performed the surgery should include careful removal of periosteal cover and safe margin of mastoid cortex around it.<sup>3</sup> If tumor is close to significant structures such as bony labyrinth and facial nerve canal a sub total excision ensures preservation of function. We should be very careful when providing intervention of tumor close to sigmoid sinus, because they can progress with significant bleeding, meningitis, thrombophlebitis.<sup>3,8</sup> Surgical complications include recurrence, facial nerve palsy, sigmoid sinus damage and sensorineural Hearing loss.<sup>4,8</sup>

Three types of mastoid Osteomas have been described based on structural characteristics.<sup>7-9</sup>

- ▶ Compact: the most frequent one, comprising dense, compact and lamellar bone with few vessels and haversian canal system.
- ▶ Cartilaginous: comprising bone and cartilaginous elements
- ▶ Spongy: rare type
- ▶ Mixed: mixture of spongy and compact type.<sup>10</sup>

The cause of Osteoma has still not been defined according to congenital theory. Presence of embryonic cartilage results in intensified bone growth after puberty. Most authors feel that it originates from preosseous connective tissue.<sup>4,7,8,10</sup>

Treatment is indicated for osteomas that are symptomatic or cosmetically unacceptable. Drilling superficial lesion of the mastoid and squama is a simple procedure, these lesions are limited to the external cortex so a cleavage plane, where the tumor meets normal bone is readily encountered. In mastoid osteomas involving the facial canal or bony labyrinth complete removal of the lesion is not recommended because damage to the structures is likely.<sup>9</sup> Tumors involving the middle and inner ear are usually small and tend to remain small, so observation is preferred when symptoms are absent. When there is functional disorder such as hearing loss or vertigo judicious removal of the tumor can be undertaken.<sup>9</sup> Surgical management of internal auditory canal osteomas has varied. Both middle cranial fossa and sub occipital approaches have been employed. The approach used depends, on the location and size of the lesion and preference and experience of the surgeon<sup>10</sup>.

#### CONCLUSION:

Osteoid osteoma of the temporal bone is an infrequent benign bone tumor. The suspected diagnosis is based on clinical findings (occasionally pain, cosmetic deformities, repeated external otitis and conductive hearing loss), otoscopy, and computerized tomography.

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