



EDİTÖRE MEKTUP / LETTER TO THE EDITOR

Giant osteoma of the mandibular angle

Mandibular açının dev osteomu

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To the Editor,

Osteomas are benign tumours of osteogenic origin that produce mature bone. They are usually slow growing, asymptomatic lesions which, over a period of time, can cause facial deformity and discomfort¹. Osteomas are of three types central, peripheral and extraosseous². They are rare tumours with predilection for the temporal bones maxillary sinus and the mandible in the craniofacial region^{2,3}. Surgical excision is the treatment of choice for osteomas as they have very limited potential for recurrence. This report discusses the unusual presentation of giant peripheral osteoma of the jaw and highlights the clinical, radiographic and pathologic features of this rare case.

A 40-years-old male reported to the Department of Oral Medicine and Radiology with complaint of swelling on the left side of the face since past 6 months. The swelling gradually increased in size. There was no previous history of trauma or discharge. Patient gave history of mild pain on mouth opening and occasionally while eating food. Medical and dental history was non-contributory. Extra-oral examination showed a diffuse swelling on the left side of the lower 3rd of face extending from 1cm ahead of the angle of the mandible anteriorly and in line with the tragus of the ear posteriorly. Superiorly it extended from the ear lobe to 1cm below the inferior border of the mandible. Skin over the swelling was normal. On palpation, the swelling

was bony hard in consistency and non-tender with no local rise in temperature. (Figure 1A) Intraoral examination showed no abnormalities on inspection. A bony hard, non-tender growth was palpated on the medial aspect of the mandible below the left third molar region. (Figure 1B) Panoramic radiograph was advised which showed large lobulated dense radiopaque mass approximately 4x3 cms in size. The mandibular left third molar showed ill-defined periapical radiolucency suggestive of a periapical abscess. (Figure 1C).

For further evaluation of the radiopaque mass, a cone beam computed tomography (CBCT) was advised. Coronal Section showed a well-defined, lobulated radiopaque mass arising from the medial aspect of the left angle of the mandible. The mass was approximately 4x3 cms in size and completely radiopaque resembling cortical bone. Axial section at the level of the angle of the mandible showed three lobulations of the lesion. Alteration in the bone with increased radiopacity was seen at the angle of the mandible. The 3D reconstruction showed multiple radiopaque masses at the left angle of the mandible. (Figure 2) A provisional diagnosis of osteoma at the angle of the mandible on the left side was given. Surgical excision of the lesion was done. (Figure 3A&B) Histopathology revealed normal appearing dense bone with osteocytes and marrow spaces confirming the diagnosis of Osteoma. (Figure 3C&D) Post-operative CBCT

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showed a normal contour of the lingual surface of the mandible. (Figure 4).

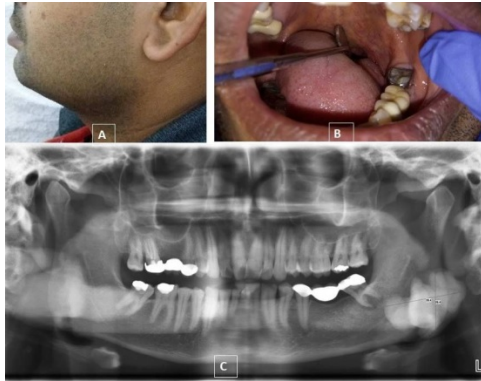


Figure 1 A. Extraoral photograph showing a diffuse swelling over the left angle of mandible. B. Intraoral photograph showing no abnormality on inspection. C. Panoramic Radiograph showing large lobulated radiopaque mass 3.8x2.5 cm in size. The mandibular left third molar shows ill-defined periapical radiolucency suggestive of a periapical abscess.

Osteomas were first described by Jaffe in 1935. He proposed specific criteria for diagnosis as follows: A benign neoplasm seen in young adults caused by calcification of osteoid, non-inflammatory in origin with the characteristic radiographic features of rarefaction or reactive bone formation, associated with pain and treated by surgical excision³.

Lichtenstein described an osteoma as a 'benign osteogenic lesion composed essentially of osteoblastic connective tissue forming an abundant osteoid and new bone, which may eventually become compact over a period of time'⁵.

The pathogenesis of peripheral osteomas is still unclear. Various theories for its occurrence have been proposed. Debate still exists whether peripheral osteomas are developmental in origin or neoplastic in nature^{2,3}. The continued growth of a peripheral osteoma in adults is suggestive of a neoplastic process³. Some authors support an inflammatory or traumatic origin.

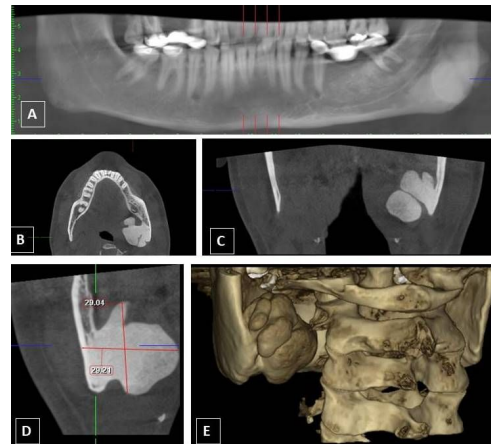


Figure 2. CBCT imaging A. Panoramic reconstruction showing well defined radiopaque mass at the left mandibular angle. B. Axial Section showing well defined lobulated mass extending medially from the left angle of the mandible. C. Coronal section showing a lobulated dense mass at the left angle of the mandible. D. Cross section at the left angle of the mandible showing a radiopaque mass 2.9x2.9cm in size. E. 3D Reconstruction.

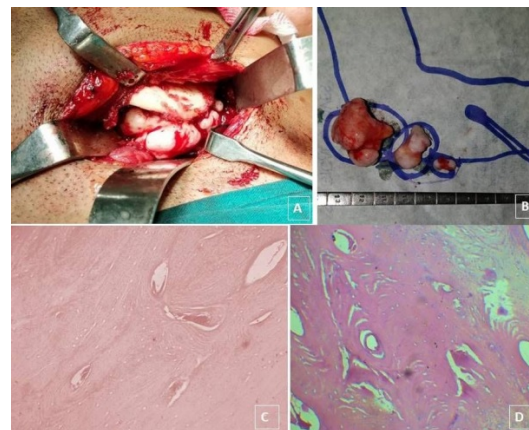


Figure 3 A. Intraoperative photograph of the osteoma B. Surgical excised specimen C&D. Photomicrograph showing normal appearing dense bone with osteocytes and marrow spaces.

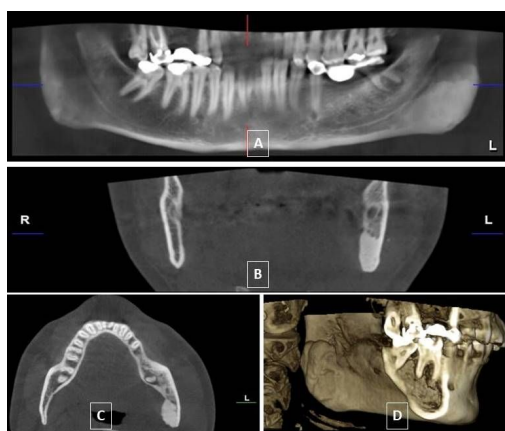


Figure 4. Post-Operative CBCT: A. Panoramic Reconstruction B. Coronal Section C. Axial Section D. 3D Reconstruction.

In the present case the left mandibular third molar had ill-defined periapical radiolucency suggestive of a periapical abscess. This could be a contributing cause for the osteoma at the left mandibular angle. Since most mandibular osteomas occur on the surface of the bone in close relation to the masseter, medial pterygoid or the temporalis, muscle traction has been suggested as another probable cause³. Another suggested etiology is the Reilly-Finkel-Biskis osteoma virus, a type C retrovirus often seen in cases of Gardner's syndrome⁵. Osteomas form 0.43% of tumors in the population with 1% detected as an incidental finding in conventional radiographs and 3% during computed tomography⁶. Of the three types of osteomas, central or endosteal osteomas arise from the endosteal surface of the bone and periosteal or peripheral osteomas develop from the periosteum as masses attached to the bone surface. Extraosseous osteomas commonly occur within muscle².

In the present report, the osteoma presented as a large radiopaque mass attached to the medial surface of the bone with sclerotic change at the mandibular angle. Similar appearance of osteoma was reported by Tarsitano et al⁷ and may be a feature of large osteomas. Osteomas are rare lesions. When present in the head and neck, paranasal sinuses like the frontal, ethmoidal and maxillary sinuses are commonly affected followed by the jaw bones². The mandible is affected thrice as frequently as the maxilla with the common sites being the posterior mandible followed by the condyle and mental region⁵. In Japan, osteomas commonly involved the

lingual mandible, inferior border and mandibular angle whereas Western countries showed higher incidence in the mandibular angle followed by the condyle and inferior border¹. Most osteomas have a diameter of around 1cm; those which are larger than 3cm in diameter are considered as giant tumours⁶. The present osteoma was around 4x3cm in size. Osteomas usually present in the third decade with a range from 14 to 58 years. Men are affected twice as commonly as women. Clinically, periosteal osteoma presents as an asymptomatic, slow growing mass on the surface of the bone with movable overlying mucosa. It can be sessile or pedunculated and may be associated with pain^{2,4}. The endosteal type of osteomas are usually asymptomatic and detected during routine radiography⁴. Multiple osteomas of the jaws form a part of Gardner's syndrome where they are associated with sebaceous cysts, desmoids, supernumerary teeth and intestinal polyposis^{2,3}. Radiographically, periosteal osteomas present as a well-defined radiopaque mass with a sessile or pedunculated base attached to the underlying bone³. 3D imaging is advised to evaluate the extent of the tumour mass. In the present case, CBCT was done which revealed a large lobulated homogenous mass attached to the left angle of the mandible and growing medially. Central osteoma, on the other hand, presents as dense, well defined radiopaque mass during routine radiographs. Since marked enlargement is needed before bone expansion, central osteomas are usually indistinguishable from condensing osteitis, osteosclerosis and fibrous dysplasia¹. Periosteal osteomas and exostoses have similar clinical and radiographic features. However, the exostosis stops growing after puberty while the growth of an osteoma continues into adulthood⁵. Other differential diagnoses include tori, ossifying fibroma and osteochondroma⁵. Complications have been reported with large osteomas of the angle of the mandible and include facial asymmetry, dysphagia, sleep apnea syndrome and dyspnea⁷.

The treatment of choice for a periosteal osteoma is surgical management with removal of the lesion at its base. Surgical removal is advisable when there are esthetic and functional complications or when compression of adjacent structures necessitates its removal. Osteomas located in the posterior mandible are usually managed with an extraoral approach as in the present case. Recurrence is extremely rare and malignant transformation has not been previously reported³. Osteomas are

histologically classified according to the bone composition as compact and cancellous^{3,7}.

To conclude, osteomas are slow growing benign lesions which may cause facial asymmetry and discomfort. Large osteomas on the medial aspect of the mandible have the potential for causing dysphagia, and sleep apnea syndrome. The present case highlights the importance of early diagnosis and prompt management of osteomas to address not only aesthetic problems but also for pre-emptive management of possible complications.

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