

## **Osteoma of the Mandible: A Case Report**

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### **Abstract**

*The osteomas are benign rare neoplasms, generally asymptomatic which are characterized by the proliferation of a compact or spongy bone. When they are situated in the maxillofacial area, they affect mainly the mandible, the frontal bone and the paranasal sinus. Osteomas are categorized as central, peripheral or extraskeletal according to location.*

*We present a case of a 55 year old female patient with a long standing mandibular swelling which was surgically excised and histopathologically diagnosed as an Osteoma.*

**Keywords:** *Osteoma, Benign neoplasm of the bone, mandibular swelling.*

### **Introduction**

Osteomas are benign, slow-growing osteogenictumors commonly occurring in the craniofacial bones; between the second and fifth decades of life<sup>1</sup>. They clinically present as a hard bone asymptomatic mass<sup>2</sup> and comprise of histologically and radiographically normal bone<sup>3</sup>.

The pathogenesis of osteomas is unclear; some consider it as a true neoplasm, while others a developmental anomaly. Possibility of a reactive mechanism, caused by trauma or infection has also been suggested. Maxillofacial osteoma is also associated with Gardner's syndrome<sup>4</sup>.

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### **Case Report**

A 55 year old female patient reported with a chief complaint of a swelling on the left lower border of the jaw since the past five years. She had been aware of the slow but steady increase in the size of the lesion over time. The lesion was not associated with pain or any other symptoms. Extraorally, a well-circumscribed mass, 5X4X3 cm<sup>3</sup> in size and extending down from the lower border on the left side of the mandible was noted (Fig 1). On palpation the swelling was bony hard and non tender. The overlying mucosa was normal and not fixed to the underlying tissue.



Fig 1 - Clinical presentation of the swelling (A) and Operative photograph (B) of the lesion post flap reflection

Computerized Tomography scan showed a large, well defined, roughly oval, pedunculated, unilocular lesion with corticated borders; buccal and lingual cortical expansion with central radiolucent area with some radiopaque regions; located at the lower border on the left side of the mandible (Fig 2). A Clinical diagnosis of osteoma was arrived at and the tumor was surgically excised and tissue sent in formalin for histopathological evaluation.

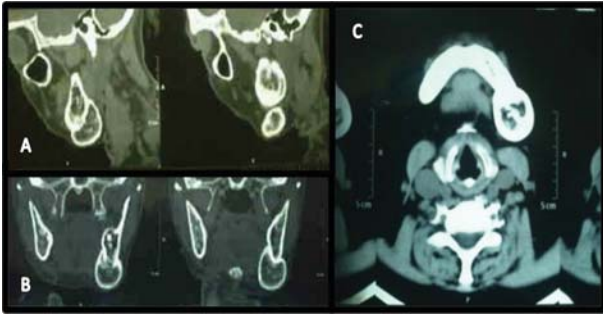


Fig 2 - Transverse (A), Coronal (B) and Axial (C) view of Computerised Tomograph showing the lesion with radiodensity similar to the adjacent bone

On grossing, a single large tissue, which was oval in shape, 3.5X2.5X2 cm<sup>3</sup>, reddish in colour and bony hard in consistency, was noted. Histological picture showed trabeculae of lamellar bone and variable amounts of fibrofatty marrow; peripherally few areas of compact bone were also noted. Definitive diagnosis of an osteoma was arrived at. (Fig 3)

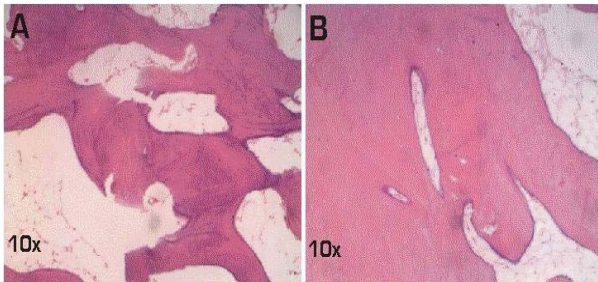


Fig 3 - Photomicrograph showing trabeculae of lamellar bone with marrow tissue (A) and compact bone (B)

### Discussion

Osteoma is benign neoplasm consisting of well differentiated compact or cancellous bone that increases in size by continuous osseous growth<sup>5</sup>.

While analyzing the location of osteomas, which occur in the mandible, the body is the most affected region, followed by the condylar process, angle, ramus, coronoid process and mandibular notch<sup>1</sup>. Our case too occurred on the lower border of left mandibular body.

The causes of osteoma are still unknown, thus, a lot of etiological factors have been proposed. It is considered a true neoplasm by few; while some propose it to be a reaction caused by trauma, since they are generally situated in regions susceptible to trauma, as the base of mandible<sup>1</sup>; reaction to infection and growth anomalies are also postulated by some researchers<sup>2</sup>.

According to some authors, the combination of trauma and muscular tension could contribute to its development; where trauma could cause a subperiosteal bleeding or local edema, which would increase the periosteum causing an osteogenic reaction which would last through the constant muscular traction<sup>6</sup>. In this case though the lesion is present on the body of mandible, no history of trauma was elicited.

Computerised Tomography is the best imaging modality for determining the location and real extension of the lesion. Peripheral osteomas, in most cases, are easy to recognize because of their classic radiographic findings. On radiological imaging, a peripheral osteoma of the mandible is a classically well-circumscribed, round or oval, mushroom-like radiopaque mass with distinct borders. The lesion may be sessile and attached to the cortical plates with a broad base<sup>7</sup>. In our case, the lesion consisted of a radiolucent mass with some radiopaque areas and corticated borders. The loss of the classic dense radiopacity is attributed to its histological feature of being formed of predominantly cancellous or spongy bone.

Osteoma should be differentiated from several pathologic entities, such as exostoses, osteoblastoma, and osteoid osteoma, late-stage central ossifying fibroma, or complex odontoma. Exostoses are bony excrescences that usually stop growing after puberty, thus differentiating them from osteomas. The borders of central ossifying fibromas are well-defined, and a thin radiolucent line may separate it from the surrounding bone. A sclerotic border may be present in the bone next to the lesion; osteoblastomas and osteoid osteomas are more frequently painful and grow more rapidly than peripheral osteomas. A complex odontoma presents as a well-defined radiopacity situated in bone, but with a density that is greater than bone and equal to or greater than that of a tooth. It is also surrounded by a narrow radiolucent rim<sup>7</sup>.

When the osteomas are asymptomatic and small, the best option of treatment is the periodic observation. However, in cases where we can observe a dental malocclusion, the treatment of the osteomas is through the surgery excision<sup>2</sup>.

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