Oral and Maxillofacial Surgery

Osteoma of Mandible - A Case Report

Nusrat Rashid Peer
P. G. Student

Correspondence Address
Dept of Oral and Maxillofacial Surgery
Swami Devi Dyal Hospital and Dental College
Barwala, Panchkula

Abstract

Most of the head and neck tumors are odontogenic in origin. Non odontogenic tumors of epithelial or mesenchymal origin also form a significant component in this region. The tumors arising from mesenchymal component may originate from various structures like fibrous tissue, adipose tissue, bone and cartilage. Here we report a case of benign tumor originating from bone that is restricted to the craniofacial skeleton. In this paper, we presented a large solitary osteoma located in the inferior aspect of the right angle of mandible , causing facial deformity in a 27-year-old woman. Radiographic examination by orthopantomogram revealed well defined radiopacity approximately 2 cm in size in the above mentioned site. The osteoma was removed surgically, and no recurrence has been observed .

|| Key Words

Benign Bone tumor, Osteoma Craniofacial skeleton.

|| Introduction

Osteomas are benign, slow-growing osteogenic tumours rarely occurring in the craniofacial bones. Osteomas are characterised by the proliferation of compact and/or cancellous bone.[1] Lichtenstein defined osteoid osteoma as a "small, oval or roundish tumor like nidus which is composed of osteoid and trabeculae of newly formed bone deposited within a substratum of highly vascularized osteogenic connective tissue.[2] Various etiopathogenetic hypotheses have been proposed for osteoma formation. Some have hypothesized that the lesion is caused by congenital anomalies. Another proposal, which is no longer held, was that chronic inflammation caused neoplastic proliferation.

The development of these formations may be a result of trauma or embryogenetic changes. In addition, others have hypothesized that muscular traction contributes to neoplastic changes in the bone.[1] Solitary osteomas may be classified as: peripheral (paraosteal, periosteal or exophytic) when arising from the periosteum, central (endosteal), when arising from the endosteum and extraskeletal (the so-called osseous choristoma) when arising in soft tissue. Multiple osteomas may be associated with Gardner's syndrome.[3] Osteoma is considered as an inactive neoplasm, most often an accidental finding on radiographic examination. The symptoms like sinusitis, localized pain, headache, nasal obstruction, exopthalmosis, facial asymmetry and difficulty in opening the mouth is attributed depending on the site of occurance [4]

|| Case Report

A 27-year-old female reported to the Department of Oral and Maxillofacial Surgery of Swami Devi Dyal Hospital and Dental College Barwala with a complaint of facial swelling on the inferior aspect of the right angle of mandible. She had been aware of the slow but steady increase in the size of the lesion over the past 2 years. The lesion was associated with occasional pain at night, and there was no difficulty in opening of mouth or chewing. Her medical history was not contributory. Clinical examination revealed extraoral swelling on the right side. The regional lymph nodes were non-palpable and non-tender. Extraoral examination revealed a well-defined, round, immobile mass. The lesion was bony-hard on palpation. The overlying skin was normal. (fig-1) A solitary, round, 2 X 2.5 cm well-defined radio-opaque lesion at inferior border of mandible was noticed with panoramic radiography.(2) Under conscious sedation, the lesion was completely excised surgically (fig-3) and surgical recontouring was done (fig-4).

After achieving haemostasis suturing was done. (fig-5) Standard protocol of perioperative antibiotics and anti-inflammatory regimen was followed. The excised specimen was submitted for histopathological examination. The histopathology confirmed the clinical diagnosis.

|| Discussion

Osteomas are benign, slow-growing, well-defined osteogenic lesions developing from mature bone. They are characterized by the proliferation of compact or cancellous bone.[5] The precise etiology of peripheral

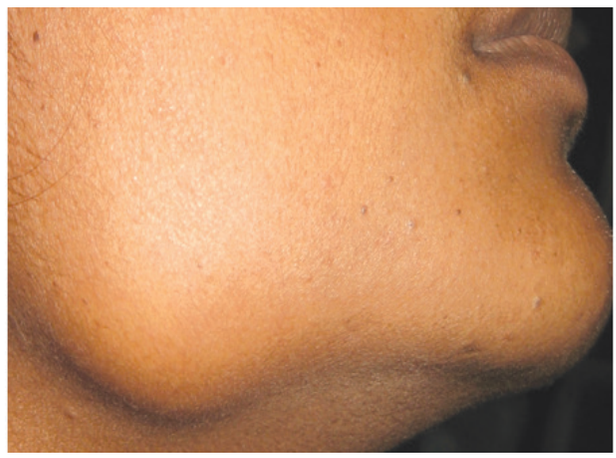

Fig.1 Preoperative picture of the patient showing well-defined, round, immobile mass on the right side of lower jaw.

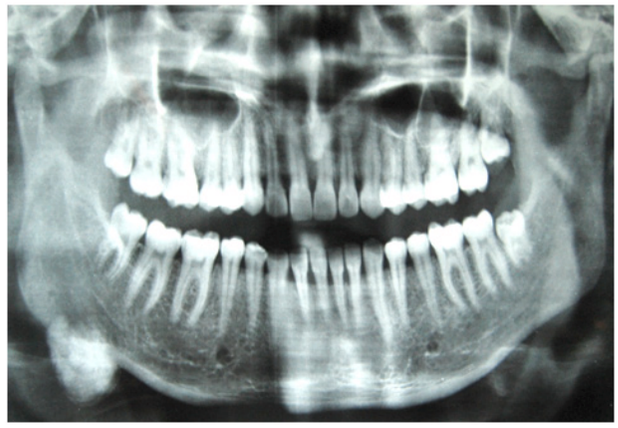

Fig.2 Preoperative OPG showing a solitary, round, well-defined radio-opaque lesion at inferior border of mandible.

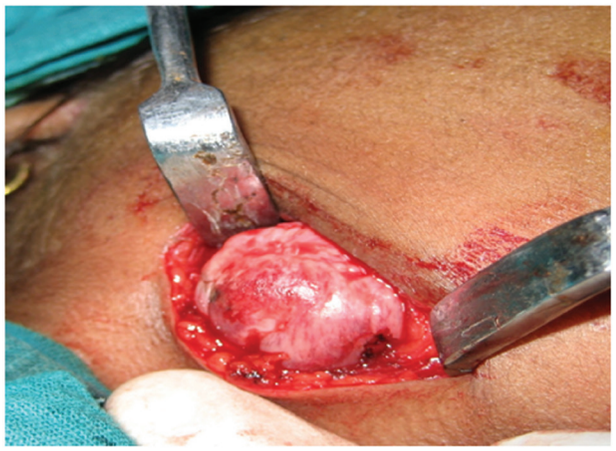

Fig.3 Intra-operative picture showing surgical excision of the lesion .

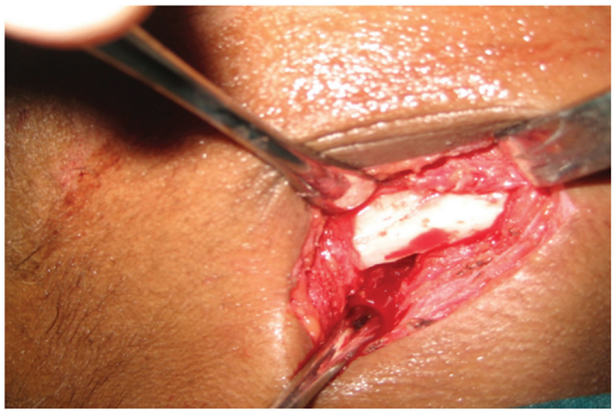

Fig.4 Intra-operative picture showing surgical recontouring

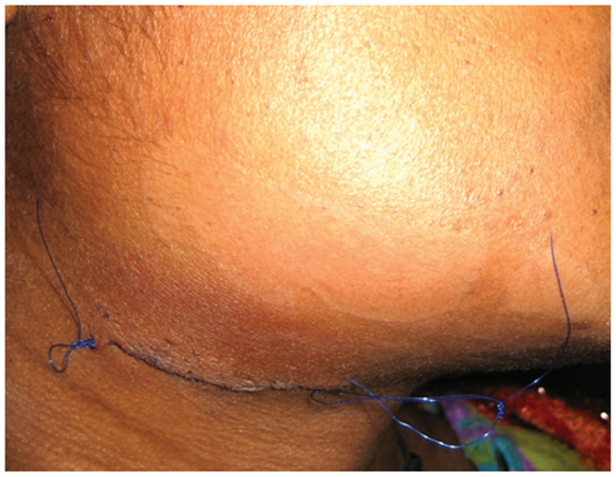

Fig.5 Suturing done after achieving hemostasis

osteoma is unclear. Possibility of a reactive mechanism, caused by trauma or infection has also been suggested.[6] It accounts for 3% of all primary bone tumours, and about 10% of benign bone tumours. About 80% of osteomas occur in long bones, while less than 1% occurs in jaws.[7] Osteomas can occur at any age. However, they are most commonly diagnosed in the third and fifth decades of life and are more frequent in males than in females but the present case is of a female. It commonly involves the frontal and ethmoid sinuses. External auditory tract, orbita, temporal bone, and pterygoid processes are other sites of involvement

Mandible is more frequently involved than the maxilla. Sayan et al[9] reported 22.85% of the lesions in the mandible and 14.28% in the maxilla in their study. Kaplan et al[7] reported 81.3%, Chaurasia and Balan reported 83% and Woldenberg et al [10] reported 64% of cases occurred in the mandible.[7] The mandibular peripheral osteomas are often located in the mandibular condyle and angulus, and less commonly involve the ramus or molar area. In present case the location is also the inferior border of the angle of the mandible. Clinically, these lesions are characterized by slow and continuous growth patterns which is same in our case. On radiological examination, peripheral osteomas appear as an oval-shaped radio-opaque mass with well-defined margins and growing on a broad base or a stalk on the cortex. These lesions usually do not cause destruction of the adjacent bone tissue. In the present case, the lesion was limited to the cortex and did not cause destruction in the neighboring tissues.[5]

In differential diagnosis the peripheral osteoma should be differentiated from several pathologic entities, such as exostoses, osteoblastoma, and osteoid osteoma, late-stage central ossifying fibroma, or complex odontoma. Surgery is indicated only when the lesion is symptomatic or actively growing. The surgical approach should be case specific. For the mandible there are intraoral or extraoral approaches.In our case the extra-oral approach was used. Recurrence after surgical excision is extremely rare. There are no reports of malignant transformation of peripheral osteoma in the literature.[9]

|| Conclusion

Mandibular peripheral osteomas are rare, benign, and radioopaque bone lesions. Other hyperplastic and neoplastic bone lesions must be included in the differential diagnosis, and the association of such lesions with Gardner's syndrome should always be taken into consideration.

Co-authors


Srimathy S. Arora
Professor and Head


Ish Kumar
Reader


Hem Singh Khanna
P. G. Student


Nilesh Kumar
P. G. Student


Ankit Mehta
P. G. Student

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