CASE REPORT

Intra Oral Cancellous Osteoma: A Rare Presentation in Anterior Maxilla

Amit Singh Jaswal[1], Shylaja Attur[1], Avani Patel[1], Jigar Patel[2]

[1] Department Oral & Maxillofacial Pathology and Oral Microbiology, Narsinhbhai Patel Dental College & Hospital, Sankalchand Patel University, Visnagar, 384315 Gujarat, India.
[2] Department of Oral And Maxillofacial Surgery, Private Practioner, Himmatnagar, 384315 Gujarat, India.

ABSTRACT

Osteoma is a benign bone tumor that slowly develops from mature compact or cancellous bone, commonly occurring in the paranasal sinuses, mandible, and cranial bones. These tumors are often asymptomatic and discovered incidentally but can cause symptoms like facial deformity, nasal obstruction, sinusitis, or nerve compression if they grow large enough. Histologically, osteomas can be compact, cancellous, or mixed. The majority of osteomas are found in the craniofacial region due to specific bone remodelling and anatomical features, although they can rarely occur in the long bones. Herein, we present an unusual case of a 32-year-old male with a gradually enlarging solitary mass located on the anterior left maxilla. Following surgical excision, histopathological analysis confirmed the diagnosis of cancellous osteoma. This case underscores the diverse clinical presentations of osteomas and highlights the importance of histological examination for accurate diagnosis and management.
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Corresponding Author:
Shylaja Attur, MDS
Email: shylajamd@gmail.com
Tel: +91-9723563697

INTRODUCTION

Osteomas are recognized as authentic hamartomas that predominantly develop in membranous bone and primarily involve the craniofacial skeleton with frontal sinus as the site of predilection (1). Osteomas emerge either on the bone's surface (periosteal, peripheral, or exophytic osteoma), within the bone marrow (endosteal or central osteoma), or as extra-skeletal growths found within muscle or the dermis of the skin (osteoma cutis) (2). Mandibular osteomas are more common than maxillary, with male predilection. An osteoma typically appears as a slow-growing, painless, discrete bony mass. It's often discovered incidentally on radiographs, displaying a well-defined round or ovoid radiopacity (1).

We hereby present a case of 32-year-old male patient with intraoral central cancellous osteoma involving anterior region of maxilla. As per the literature available, very few cases have been reported of solitary osteoma in maxilla. This type of lesion is a rare and intriguing case to document.

CASE REPORT

A 32-year-old male patient presented to the hospital with a chief complaint of a growth in the upper front tooth region of jaw that had been present for the past one year. Patient was asymptomatic before 1 year, it began as a small peanut sized lesion and gradually enlarged to its current size. There was no related pain with the lesion but gingival trauma during mastication reported occasionally. The patient denied any prior history of tooth extraction, trauma to the area, and reported no systemic health issues. Vitality of upper anterior teeth were found positive. On clinical examination, intraorally, a solitary, elliptical growth was detected over the labial cortical plate and alveolar process of the left side of the maxilla, situated in the area of the maxillary left central and lateral incisors. Overlying mucosal surface was nodular, non-ulcerated and pale pink in colour. The growth extended from attached gingiva of distal aspect of maxillary left central incisor, apically to the mucogingival junction and extended palatally crossing the ridge, approximately of 2.5×2×2.5 cm in size. The growth exhibited a rough, immobile, non-tender, and non-compressible texture upon palpation, with a bony consistency. Additionally, the overlying mucosa was tightly adhered to the growth (Figure 1). Provisional diagnosis of peripheral ossifying fibroma was made, with osteoma, osteoid osteoma, and

osteoblastoma included in the list of potential differential diagnoses.

Figure 1: Intraoral photograph showing the lesion in between 21 and 22

Orthopantomogram revealed sclerotic, irregular area between 21 and 22 teeth with titling and spacing between both incisors (Figure 2). The lesion was surgically excised, fixed in 10% formalin and sent for histopathology (Figure 3). The microscopic analysis of the hematoxylin and eosin-stained section displayed parakeratinized stratified squamous epithelium featuring elongated and narrow rete ridges (Figure 4a). Superficial stroma was fibrous with thick collagen bundles. Deep stroma showed bony trabeculae with thin bony spicules and fibro-fatty bone marrow tissue suggestive of cancellous osteoma (Figure 4b).

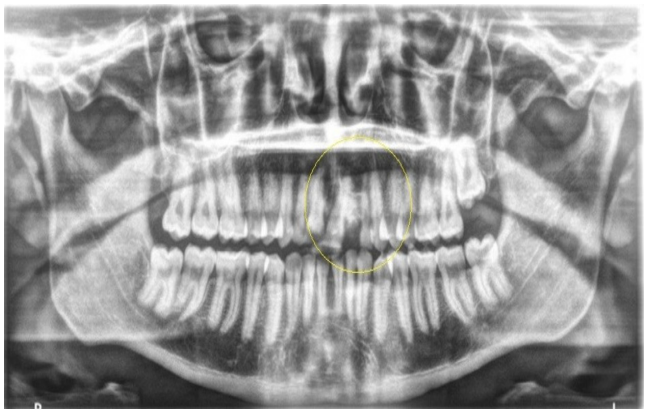

Figure 2: OPG showing radio-opacity irt 21 and 22

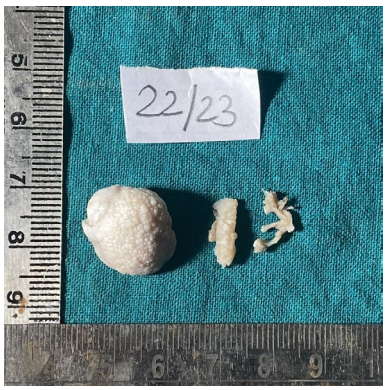

Figure 3: Excised specimen

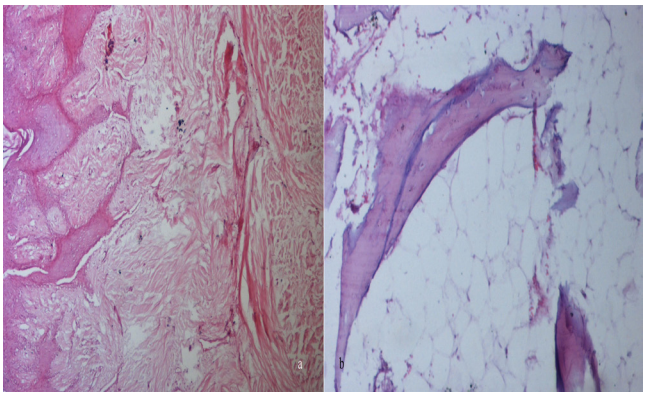

Figure 4: H&E stained photomicrographs a. showing epithelium and thick collagenous stroma (100X), b. Bony trabeculae with fibrofatty marrow (200X).

DISCUSSION

The osteoma is a benign bone forming lesion which is seen almost exclusively in the flat bones of the skull and face where it presents as an exophytic mass with either a pedunculated or sessile base. In case of jaw bones, the mandible is more frequently affected than the maxilla. Mandible posterior region (body and condyle) is more commonly affected than the anterior mandible. In the maxilla, the posterior alveolus is most commonly affected, followed by the hard palate. In their study, Sayan et al. reported 22.85% of the lesions in the mandible and 14.28% in the maxilla (3). In another study by Kaplan et.al, he reported that 81.3% of cases of osteomas are manifested in the mandible (4).

Other studies have reported peripheral osteoma in the sigmoid notch of the mandible and reported that 1.6% of osteomas of mandible were peripheral osteomas. Several other studies have reported cases of osteomas in craniofacial region, majority of which have been seen involving the mandible (4). These reports suggest the rarity of occurrence of a peripheral osteoma in the maxilla.

The etiology of osteomas is unknown, several theories have been proposed, including suggestions of a reactive condition induced by trauma, developmental or embryological factors, and inflammatory processes. The present case does not recall any incidents of injury or infection. Furthermore, there is a hypothesis proposing that chronic infection affecting the paranasal sinuses could lead to the proliferation of osteogenic cells. From an embryological standpoint, some suggest that osteomas might originate from the sutures found between bones with differing embryological origins (endochondral/membranous). However, this occurrence is rare since osteomas predominantly occur in adults rather than children. Additionally, another theory suggests that because peripheral osteomas are situated near muscle attachment areas, muscle traction could be a potential cause (5).

Solitary osteomas of the jaws have been documented in patients spanning from 9 to 85 years of age. A review of literature analysing series of cases does not reveal any gender predilection (3, 4). While osteomas are benign lesions, clinically, peripheral osteomas typically range in size from 10 to 40 mm. However, if left untreated, they have the potential to grow significantly larger and may be characterized as gigantiform or huge osteomas (3). Progressive growth may interfere with oral function, such as mastication, speech, swallowing, and sometimes respiration. Facial asymmetry or deformity is a common presenting feature. Limitation of mandibular movement, paraesthesia, mucosal ulceration, local sensitivity and headache have also been reported (2). Though the present case was asymptomatic, but growth extended up to the occlusal level, causing discomfort, repeated trauma and bleeding during mastication.

Osteomas present primarily as solitary lesions. Peripheral osteoma should be distinguished from various pathological conditions, including exostoses, erupting odontoma, osteoid osteoma, peripheral ossifying fibroma, and osteoblastoma. Patients with peripheral osteoma should undergo examination to exclude the possibility of Gardner's syndrome (GS). exhibiting multiple lesions. Gardner's syndrome is an autosomal dominant syndrome characterized by the occurrence of multiple osteomas of the jaw bones, epidermoid cysts, other soft tissue tumors and colonic polyps. In addition, osteomas may also affect the long bones and phalanges. A finding of three or more osteomas has been proposed as suggestive of Gardner's syndrome (2).

Radiographically, the hallmark of peripheral osteomas is the identification of an oval, radiopaque, well-defined growth attached to the affected cortical bone by a broad base or pedicle (1, 2). Regarding our patient, OPG shows irregular sclerotic area between upper left central and lateral incisor along with tilting and spacing between them.

Indeed, peripheral osteomas are benign lesions, and the treatment of choice is surgical excision. No case with malignant transformation has been reported till date. Recurrence is uncommonly observed; however, it's advisable to have regular follow-up appointments every 6 months for 1-2 years.

CONCLUSION

Peripheral osteomas in the maxilla are uncommon with the cancellous type being even more rare. Being benign, slow-growing bone tumor, it is typically found in the paranasal sinuses, mandible, and cranial bones. Facial deformity, nasal obstruction, or sinusitis are common presenting symptoms when it grows large. Histopathological analysis is the gold standard for diagnosis supplementing the radiograph. Complete excision is the treatment of choice, but the association with Gardners syndrome has to be ruled out for a better prognosis.

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