Case Report

Compact osteoma of the maxilla: A rare case report

Umesh Yadalam[1], Partha Pratim Roy[1], Aditi Bose[1], Smitha T[2]

[1]Department of Periodontics, Sri Rajiv Gandhi College of Dental Sciences, [2]Department of Oral and Maxillofacial Pathology, VS Dental College and Hospital, Bengaluru, Karnataka, India

Abstract

Osteomas of the facial bones are a rare entity and very few cases have been reported in the literature. Osteoma is a benign osteogenic lesion with a very slow growth, characterized by proliferation of either cancellous or compact bone. This paper describes a case of a 27 year old male seeking treatment for a slowly enlarging lesion in the maxillary right anterior region. Surgical excision of the lesion was done and the histopathologic evaluation revealed dense compact bone with osteocytes in the lacunae suggestive of compact osteoma. One year followup showed no evidence of recurrence. To best of our knowledge this is the twelfth case of maxillary osteoma reported in English language literature.

Keywords: Compact bone, maxilla, maxillofacial region, osteoma, peripheral

Address for correspondence: Dr. Umesh Yadalam, Department of Periodontics, Sri Rajiv Gandhi College of Dental Sciences, Bengaluru - 560 032, Karnataka, India.
E-mail: umeshyadalam@gmail.com

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INTRODUCTION

Osteoma is a benign osteogenic tumor arising from the proliferation of the cancellous or compact "ivory osteoma" bone.[1,2] It can be central osteoma arising from the endosteum, peripheral osteoma (PO) arising from the periosteum or extraskeletal soft-tissue osteoma that usually develops within the muscle.[3,4] These occur frequently in the sinuses, most common in the frontal sinuses, followed by the ethmoidal and maxillary sinus.[5,6]

Most of the cases of PO appear to have a very slow growth rate, are asymptomatic and produce swelling and asymmetry. Its pathogenesis is unclear, some believe it to be a true neoplasm while others classify it as a developmental anomaly.[7] Trauma or infection as a source of triggering factors has also been suggested.[8] The association between cutaneous sebaceous cysts, maxillofacial osteoma, multiple supernumerary teeth and colorectal polyposis is known as Gardner's syndrome.

CASE REPORT

A 27-year-old male patient reported to the department of periodontics, with a chief complaint of swelling in the anterior region of upper jaw, present since 8 years. A history revealed that the protuberance initially was small and had gradually increased to the present size. The intraoral radiograph showed radiopacity at the canine region [Figure 1].

Intraoral examination revealed a well-circumscribed sessile protuberance of about 1 cm × 0.7 cm × 0.4 cm on the attached gingiva in the labial aspect of the canine region [Figure 2]. The oral hygiene of the patient was good. On palpation, the swelling was nontender, bony

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hard (noncompressible), nonfluctuant and nonpulsatile. The pulp vitality test confirmed the anterior teeth 13 to be vital. Displacement of the teeth was not observed. A complete blood and urine examinations were done, and the reports were normal. Gardner's syndrome and all the other systemic diseases were ruled out.

Surgery under local anesthesia was planned for excision of the bony mass. A mucoperiosteal flap was raised in the maxillary anterior region, after adequate exposure of the bony mass, it was excised using mallet and chisel, and osteoplasty was performed using bone file [Figures 3 and 4]. The flap was trimmed and repositioned with 3–0 silk sutures and pack was placed. The gross specimen was bony hard, round in shape and measured about 1 cm × 0.7 cm × 0.4 cm in size. The excised bony lesion was sent for histopathologic examination. Healing was uneventful 1-week postoperatively. One-year follow-up showed satisfactory results [Figure 5].

Histopathology

The tissue was fixed in 10% neutral buffered formalin, decalcified in 5% formic acid and was routinely processed. The decalcified section was stained with hematoxylin and eosin, which revealed compact, mature lamellar bone with few dispersed lacunae along with osteocytes within it. Few vascular channels were present within the haversian canals surrounded by concentric lamellae's which were also evident. The histopathological features are suggestive of compact osteoma [Figure 6].

DISCUSSION

Clinical examination revealed a well-circumscribed sessile protuberance of about 1 cm × 0.7 cm × 0.4 cm on the attached gingiva in the labial aspect of the right upper canine region. Intraoral periapical (IOPA) radiograph depicted radiopacity in the apical region of the right upper canine. Histopathology of the lesion revealed compact, mature lamellar bone with few dispersed lacunae

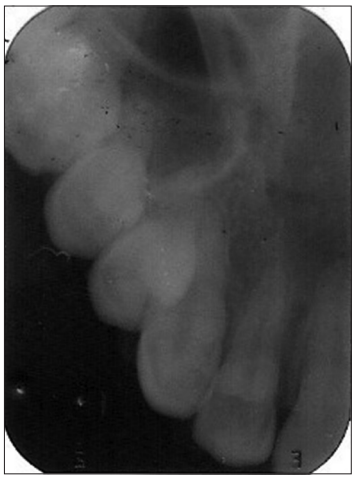

Figure 1: Intraoral periapical i.r.t 13

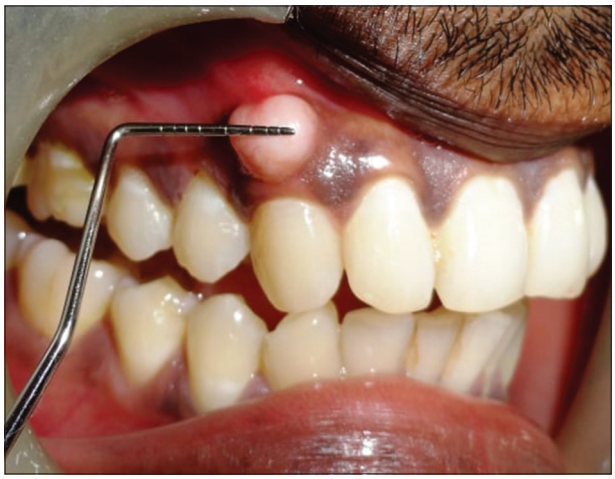

Figure 2: Bony lesion at 13

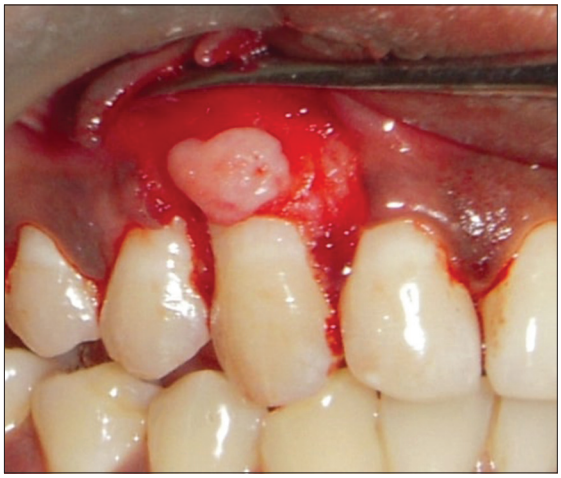

Figure 3: Reflection of the flap

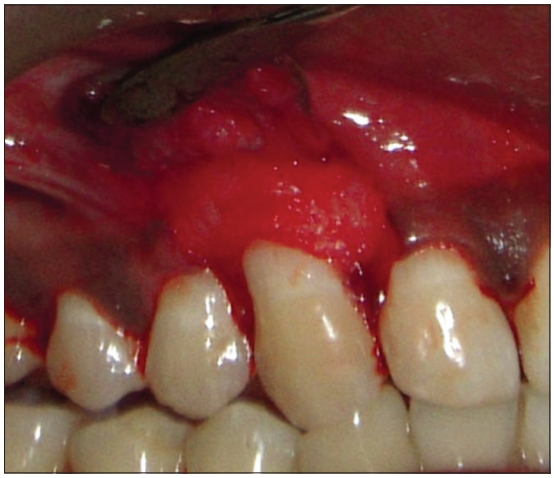

Figure 4: After excision of the lesion

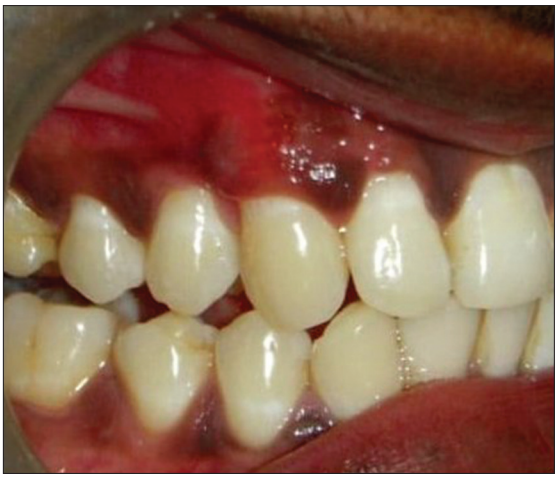

Figure 5: Postoperative view after 1 year

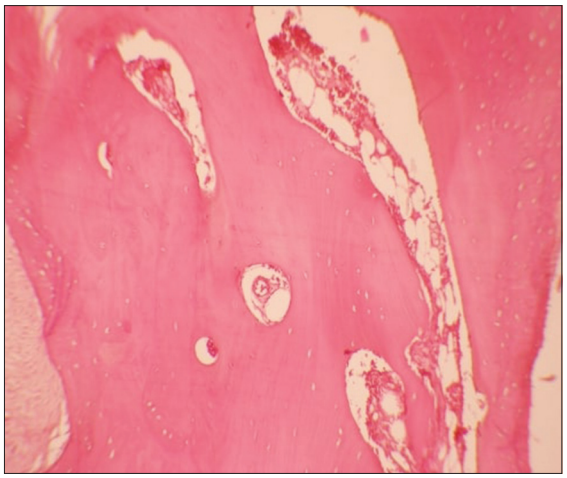

Figure 6: Histopathology of the excised lesion

along with osteocytes within it. Few vascular channels were present within the haversian canals surrounded by concentric lamellae which were also evident suggestive of compact osteoma. PO of the jawbones is slow-growing bony lesion composed of either mature compact and cancellous bone which is a very rare entity. These lesions usually appear as a unilateral pedunculated mass. There is a 3:1 female predilection, but different authors have reported both female and male predilection in case series of osteoma of the maxillary region.[9] Age at which the lesions are first identified ranges between 15 and 75 years, the majority being noticed after the age of 25 years[8] as was also in this case. The mandible is more commonly affected than the maxilla. The most common sites are angle and lower border of body of the mandible, the sites more susceptible to trauma.[3,7] The most common sites of maxillary osteoma are the alveolar process as seen in the present case report followed by hard palate. The exact etiology and pathogenesis of osteoma are not clear, but various hypothesis have been put forward which include congenital and hereditary disorder, a developmental origin,[7] neoplastic or a reactive mechanism to trauma or infection. Location of the PO of the jaws is normally in close proximity to the area of muscle attachment, suggesting that muscle traction may also play an important role in its development. The combination of trauma and muscle traction may also play an important role in the pathogenesis of the lesion.[10,11] Conventional radiographic images are generally adequate in diagnosing an osteoma, which shows a well-circumscribed radiopaque mass. In addition, waters view or tomographs usually reveal the lesion even computed tomography scan also shows the details of the osteoma location in an improvised manner as it is a three dimensional view. In the present case, IOPA revealed a bone mass. Histologically, osteoma can be classified as compact osteoma and cancellous osteoma.[7] The differential diagnosis includes exostosis, which tend to stop growing after puberty; histological features of fibrous dysplasia are helpful in differentiating it from PO periosteal osteoblastoma, osteoid osteoma, osteoblastoma and osteoid osteoma grow more rapidly and are painful than PO and parosteal osteosarcoma usually present as a rapidly growing painful swelling.[7,12] Patients with osteoma should be ruled out from having Gardner's syndrome that shows the presence of polyp in the gastrointestinal tract, several osteomas, soft-tissue tumors and supernumerary multiple impacted teeth. To best of our knowledge, this is the 12th case of maxillary osteoma reported in English language literature.[12-15] Recurrence after surgical procedure is rare.[16] There are no reports of malignant transformation of compact osteoma in the literature.[16]

CONCLUSION

PO is a rare benign osteogenic lesion occurring in the oral and maxillofacial region. The possibility of PO should be kept in mind as a differential diagnosis for any peripheral, solitary, bony hard, slowly growing painless swelling encountered oral and maxillofacial region. Although the exact pathogenesis of this type of lesion is unclear, additional molecular and genetic research is required to improve the understanding.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest
There are no conflicts of interest.

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