Case Report

Osteoma of mandible: A case report

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ABSTRACT

Osteomas are benign osteogenic lesions with very slow growth, which may arise from proliferation of either cancellous or compact bone. In the jaw, these are uncommon lesions. A 45-year-old female patient reported to our dental out patient department (OPD) with a complaint of painless swelling in the right lower back jaw region for the past 2 years. A single, well-defined radiopaque lesion intermixed with multiple radiolucent areas was evident in the right body of mandible region in orthopantomogram (OPG) and computed tomography (CT) with hyperdense area with intermixed hypodense areas. In this case report, we discuss about the subsequent diagnosis and the possible treatment modality of this entity.

Key words: Benign tumor, mixed lesion, osteoma

INTRODUCTION

Osteoma is a benign tumor composed of mature compact or cancellous bone that increases in size by continuous formation of bone. It is a slow-growing, asymptomatic usually solitary lesion, which commonly affects the young adults. Osteoma is essentially restricted to craniofacial skeleton[1] and rarely, if ever, diagnosed in other bone. The lesion is found more often in the mandible rather than in the maxilla with the lingual aspect of the body of mandible and lower border in the region of angle being the most common sites and can be managed by osteocontouring surgery.

Patients with osteomas should be evaluated for Gardner's syndrome (GS).[2] This syndrome is an autosomal dominant disease characterized by gastrointestinal polyps, multiple osteomas, skin and soft tissue tumors, and multiple impacted or supernumerary teeth. Intestinal polyps are predominantly adenomas and may progress to malignancy in almost 100% of patients. Because the osteomas may be seen in the earlier stage of GS, the surgeon may play an important role in the diagnosis of colonic polyposis.

The purpose of this paper is to present a peripheral osteoma originating from the buccal and lingual surface of the mandible and causing asymmetry in a 45-year-old woman.

CASE REPORT

A 45 year-old female patient reported to our dental outpatient department (OPD) with a complaint of difficulty in swallowing with a painless swelling in the right lower back jaw region of face for the past 2 years. Patient was apparently normal before 2 years and then she developed a swelling on the same jaw region, which is of gradual onset which slowly increases in size to attain the present size. On intraoral examination, on inspection, a single well-defined swelling seen on the attached gingiva of 42, 43, 44, and 45 of size approximately 4 × 5 cm, irregular in shape, which extends anteriorly from the attached gingiva distal to 42, posteriorly up to attached gingiva of lingual aspect of 45. Superiorly from the marginal gingiva of 43 and 44, inferiorly up to buccal vestibule of 44 and 45.

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The surface over the swelling appears smooth with no visible pulsation seen. On palpation, inspectory findings are confirmed with respect to number, size, shape, and extent. The swelling is bony hard in consistency with no pulsation felt and nontender [Figure 1].

Based on history and clinical examination, provisional diagnosis of fibro-osseous lesion was made. Differential diagnosis ranges from ossifying fibroma, osteoma, ameloblastoma, and central giant cell granuloma.

Blood and serum investigations were within normal limits. A panoramic radiograph revealed an ill-defined mixed radiopaque and radiolucent lesion of size approximately 3 × 5 cm, which extends from the mesial aspect of 42 to distal aspect of 46 [Figure 2].

Axial computed tomography (CT) scan section showed a mixed hyper- and hypodense lesion with ill-defined margins extending from distal aspect of 41 to mesial aspect of 46 [Figure 3]. Coronal CT sections reveal mixed hyper- and hypodense lesion with well-defined margins extending from mesial aspect of 41 to mesial aspect of 46. Buccal and lingual cortical plate expansion is seen in Figure 4.

An incisional biopsy was done; decalcified section shows lamellar bone and medullary tissue with large blood vessel suggestive of osteoma [Figure 5].

The patient underwent surgical intervention under general anesthesia, where osseous contouring surgery was planned.

A crevicular incision was placed from 41 to 47 region [Figure 6], with an anterior relieving incision in 31 region, a full thickness mucoperiosteal flap was raised and the lesion was exposed [Figure 7].

Surgical excision of the lesion was done and mental nerve was identified and preserved [Figures 8 and 9]. The specimen is subjected to oral pathology department for the histopathology report. Final closure was done with 3-0 vicryl [Figure 10]. Hemostasis achieved and patient was extubated uneventfully.

Histopathologic examination of the surgical specimen was done, which correlates with the preoperative biopsy report.

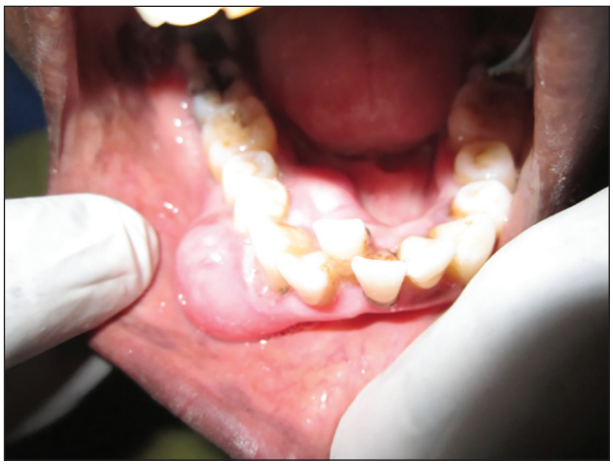

Figure 1. Intra Oral examination

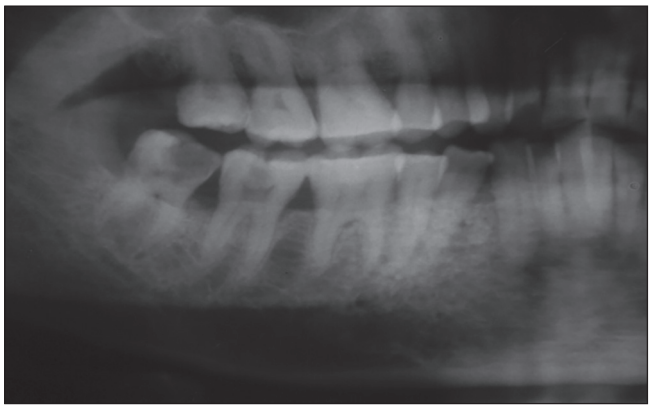

Figure 2. Radiography showing the extent of the lesion

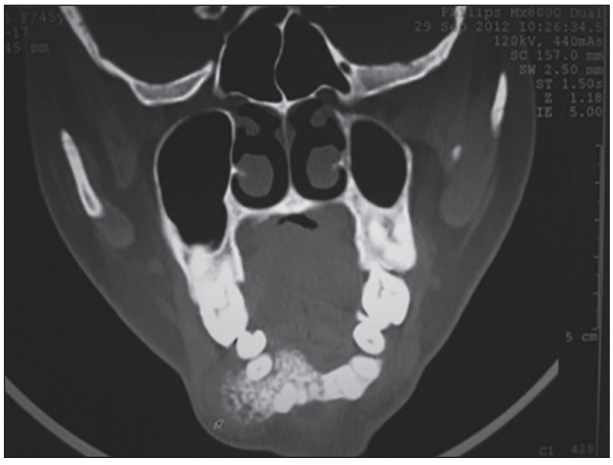

Figure 3. Coronal CT sections showing the lesion

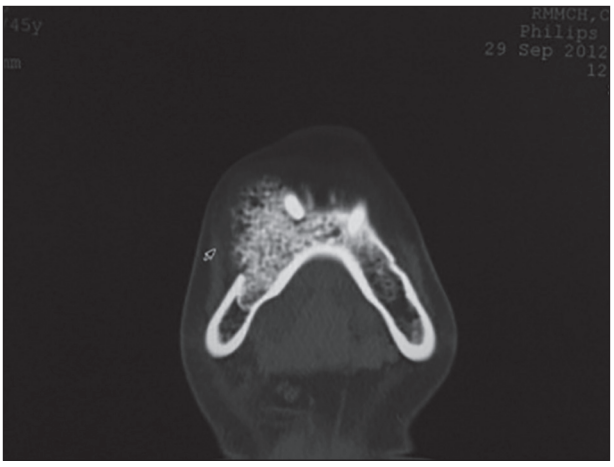

Figure 4. Buccal and lingual cortical plate expansion evident

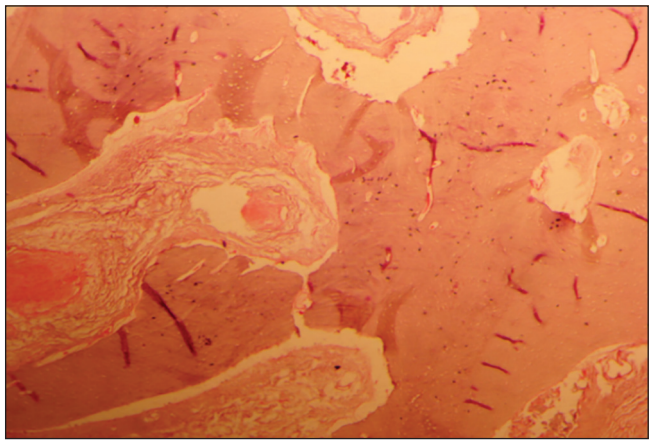

Figure 5. Decalcified section shows lamellar bone and medullary tissue with large blood vessel suggestive of osteoma

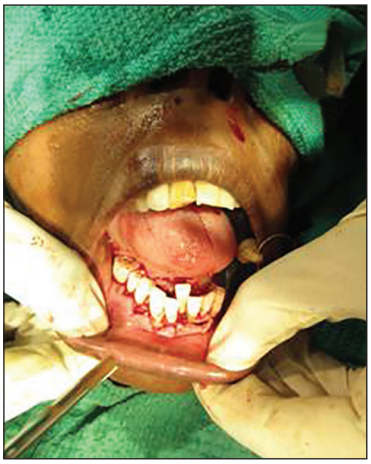

Figure 6. A crevicular incision was placed from 41 to 47 region

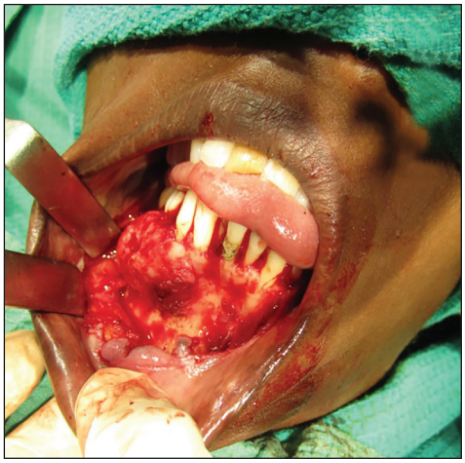

Figure 7. The lesion was exposed

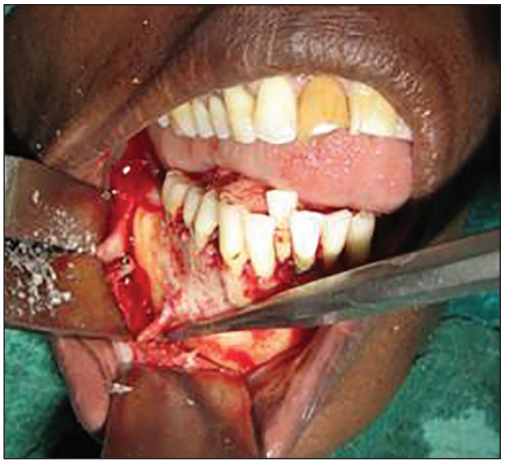

Figure 8. Mental nerve was identified and preserved

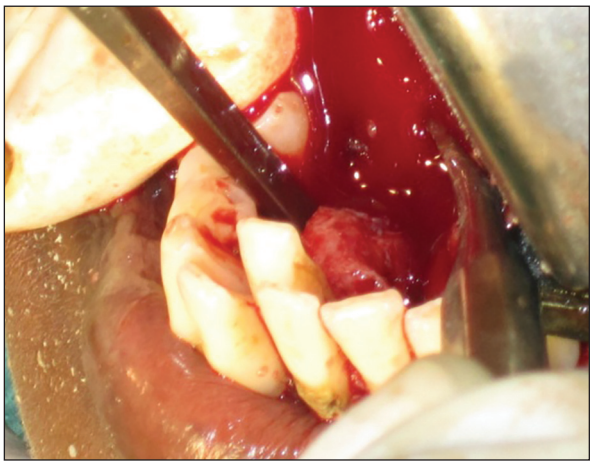

Figure 9. Surgical excision of the lesion was done

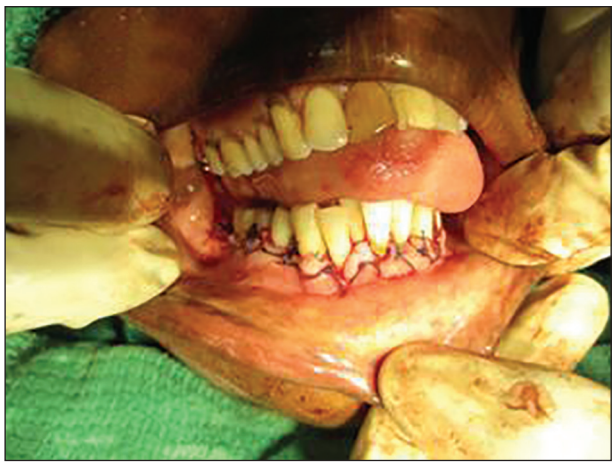

Figure 10. Final closure was done

DISCUSSION

Osteomas are benign osteogenic lesions with very slow growth.[3] They may arise from proliferation of either cancellous or compact bone. They can be central, peripheral, or extraskeletal. Usually asymptomatic, these lesions may proliferate in medullary bone (endosteal) or on the bone surface as a polypoid or sessile mass (periosteal). These tumors are mainly located on the skull and in the frontal, ethmoidal, and maxillary sinuses. Apart from

osteomas located in the maxillary sinuses, there are only eight cases of maxillary peripheral osteomas previously described in the English language literature. In the reported cases, there is a 3:1 female predilection. Different authors have reported both female and male sex predilection in case series of osteomas of the maxillofacial region. The mean age of patients with osteomas in the maxillofacial region has been reported to be 29.4 and 40.5 years. Osteomas of the maxillofacial region show a predilection for the mandible, especially the ramus and the inferior border below the molars.

Central osteomas arise mainly from endosteum, whereas, peripheral variants originate from the periosteum and the extraskeletal type resides within a muscle. Various hypotheses have been set forth with regard to the etiology of osteoma. These include congenital and hereditary disorders, a developmental origin, neoplastic or a reactive mechanism to trauma or infection. Peripheral osteomas have an affinity for particular muscle attachment region.

Radiographically, it will be a circumscribed lesion with normal density of bone.[4] They are smooth surface with thin sclerotic rim. At the center, it exhibit a mixed radiopaque and radiolucent appearance depending upon the amount of marrow tissues present. Since CT is able to determine the densities of small areas of tissues, it is useful in the evaluation of fibro-osseous lesions of tumoral origin.[5] Accordingly, CT is considered to be the most suitable imaging modality for the diagnosis of osteoma.

Osteoblastomas and osteoid osteomas are more frequently painful and grow more rapidly than peripheral osteomas.[6] 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.

Histologically, an osteoma consists of either normal-appearing dense mass of lamellar bone with minimal marrow tissue (compactosteoma), or of trabaculae of mature lamellar bone with intervening fatty or fibrous marrow (cancellous bone).

The treatment for osteoma is surgical excision,[7] particularly if there is painful or active lesion growth, or in order to correct asymmetry or other secondary problems, such as blockage of cavities, nerve foramina, and vital organ compression. Recurrence after surgical procedure is rare and segmental resection is unnecessary.

Removal of an asymptomatic peripheral osteoma is not generally necessary. Surgical intervention is indicated only if it becomes large enough to cause facial asymmetry and functional impairment.[8] Surgical excision is usually simple in pedunculated peripheral osteomas rather than a sessile one.[9] In the case of mandibular peripheral osteomas, an intraoral approach is preferable to an extraoral approach mainly for cosmetic reasons, as in our case.

CONCLUSION

Osteoma of craniofacial region is a rare, slow-growing, benign lesion. So whenever a case of bony hard swelling in craniofacial region is encountered, osteoma should be included in the differential diagnosis and treatment modality for osteoma should be an osseous contouring surgery, if the patient is symptomatic.

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