

CASE REPORT

Bilateral Cemento Ossifying Fibroma of Mandible

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ABSTRACT:

Cemento - Ossifying Fibromas are rare fibro-osseous lesions that affect the jawbone. It is a well-demarcated and occasionally encapsulated neoplasm that contains fibrous tissue and varying amounts of calcified tissue resembling bone, cementum, or both. Slow growth and lack of symptoms are the cardinal features with expansion of both buccal and lingual plates associated with the larger lesions. The current case of bilateral Cemento Ossifying Fibroma of mandible is reported because of its rarity and the paucity of information concerning them in the dental literature.

Key words: *Cemento-Ossifying Fibroma, Mandible, Histopathology.*

INTRODUCTION

Cemento-ossifying fibroma (COF) is a distinct form of benign fibroosseous lesions of the mandible and maxilla containing fibrous tissue & varying amounts of calcified tissue resembling bone, cementum, or both.¹ 70% of cases of COF involves the mandible with a significant percentage (22%) involving the molar region.² Chromosomal translocations have been described in a few cases of ossifying fibroma. In view of microscopic similarities with fibrous dysplasias and the cementoosseous dysplasias, some investigators regard the lesion as an example of a localized dysplastic process in which bone metabolism has been altered.³

Case Report

A 23 year old male patient came to A.J. Institute of Dental Sciences with a chief complaint of swelling in the right lower front region of the jaw since 6 months and swelling in the left lower region of the jaw since 3 months (Figure 1). Swelling was insidious

in onset with gradual progression. Patient did not give any history of trauma, pain, fever, bleeding, discharge and parasthesia associated with it. He had visited a dental hospital 2 months prior to this visit where biopsy was done, however reports of which were unavailable. Extra oral examination revealed asymmetry in the lower 1/3rd of the face. Right and left submandibular lymph nodes were palpable and tender.

Intra oral examination of right side revealed a diffuse swelling measuring 1 x 1.5 cms extending from 42 to 47 obliterating the right buccal vestibule. Gingival enlargement in relation to 43 to 47. 45 was distally tilted and 46 was mesially tilted (Figure 2).

On the left side a diffuse swelling extending from 35 to 38, measuring 1 x 1 cms, obliterating left buccal vestibules was seen. Gingival enlargement was seen in relation to 35 (Figure 3).

Radiographic investigations like IOPA w.r.t 45, 46 & 36 showed a large diffuse radiolucency involving apex, periapex & furcation area of 35, 36, 37 (Figure 3) and 44, 45, 46 (Figure 4).

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Occlusal radiograph revealed a well circumscribed large radiolucency measuring 1 x 1.5 inches buccally and 0.5 x 1 inches lingually involving 44, 45, 46. 45 was seen to be displaced distally. On the left side well circumscribed large radiolucency with sclerotic border in region of 35, 36, 37 measuring 1x1.5 inches buccally and 0.5x 1 inches lingually with foci of radiopacity in it (Figure 5).

Orthopantomograph showed a well circumscribed radiolucency involving 35, 36, 45 & 46 extending up to alveolus, involving apex & periapex, displacing root of 45 mesially & mandibular canal inferiorly. Foci of radiopacity was seen in relation to 35, 36 (Figure 6).

Provisional diagnosis of Ameloblastoma, Odontogenic Keratocyst, Fibrous dysplasia, Central giant cell Granuloma was given.

Surgical enucleation of the lesion was done under general anaesthesia & was submitted for histopathological diagnosis. Two pieces of soft tissue mass were received measuring 2.7 x 2cms & 2.4 x 1.4 cms (Figure 7).

Histopathology showed a well encapsulated tumor mass with proliferating bundles of collagen fibres and fibroblast in a storiform pattern (Figure 8). Irregular masses of osseous tissues (Figure 9,10) and number of tiny sphericular areas of darkly stained cementoid tissue were also seen (Figure 11). The amount of fibroblastic stroma consisting of sheets of spindle shaped fibroblastic cells was more in comparison to the calcified structures (Figure 12). The osseous components showed peripheral rimming by osteoblasts in focal areas. Presence of few blood capillaries & scanty cells were also evident. The above features were consistent with the diagnosis of Cemento-Ossifying Fibroma.

Healing of the patient was uneventful (Figure 13, 14, 15). Follow up until today revealed no history of recurrence. Post Operative Pictures (Figure 13, 14) showing patient free of swelling & (Figure 15) Post operative OPG.

DISCUSSION

Fibro-osseous lesions of the cranial and facial bones are usually benign and tend to grow slowly and have similar histopathological features with

fibrous dysplasia, ossifying fibroma, and cemento-ossifying dysplasia.¹¹ COF includes those lesions formerly designated as either ossifying fibroma or cementifying fibroma. The pathologic nature of COF is not yet clearly understood. It is included under neoplastic group of fibro —osseous lesions⁴ thought to arise from periodontal ligament.^{6, 8, 10} They commonly affect adults between the third and fourth decade of life with a definite female predilection, with female-to-male ratios as high as 5:1.¹ Radiographically, they appear as well-defined unilocular or multilocular intraosseous masses, commonly in the premolar/molar region.⁴ and are composed of varying amounts of cementum, bone and fibrous tissue. Gollin et al 1992 performed cytogenetic and cariotyping analysis on COF and discovered three translocations are responsible for it. In this research, G protein mutation, located in chromosome number 13 was investigated to see if this mutation has a diagnostic value for three types of fibro- osseous lesions (FD, COF, FCOD).⁷ The pathologic nature of COF is not yet clearly understood.⁸ A close histogenetic relationship exists between the central cemento-ossifying fibroma and the central ossifying fibroma. The only difference between the two is that, in cemento-ossifying fibroma, there is cementum formation along with bony trabeculae; this cementum is not seen in ossifying fibroma. Cemento-ossifying fibroma is a slow growing lesion composed of cellular fibroblastic tissue containing masses of cementum-like tissue. In addition, varying amounts of bony trabeculae are interspersed within the lesion, giving it its characteristic features.¹³ In uncomplicated cases, fibrous dysplasia contains no lamellar bone but, rather, has arrested woven bone. On the other hand, cemento-ossifying fibromas contain woven bone and are often rimmed by osteoblasts that have laid down layers of lamellar bone.¹⁴ Teeth in association with the lesion, retain their vitality and, as a rule, there is no associated root resorption.³ When this tumor arises in children, it has been named the juvenile aggressive cementoossifying fibroma, which presents at an earlier age & is more aggressive clinically & more vascular at pathologic examination⁵

with capsule composed of metaplastic bone, fibrous tissue and varying amounts of osteoid.¹² Surgical treatment of COF is achieved by enucleation resection for small-sized ossifying fibromas and mono-bloc resection with bone reconstruction for large-sized cementifying and ossifying fibromas.⁹ Prognosis of these lesions is known to be fair. Radiotherapy is contraindicated because of its radio resistance and post-radiation complications.¹ Recurrence of COF has been reported in as many as 28% of patients with mandibular central cementoossifying fibromas.⁶ The recurrence rate of maxillary central cementoossifying fibromas is unknown, but it is likely to be higher because of the greater difficulty of their surgical removal and larger size at the time of presentation.^{13,15}

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Figure 1



Figure 2



Figure 3

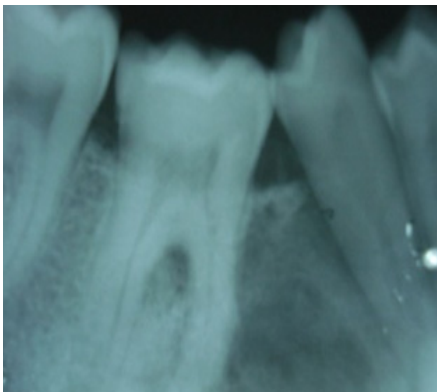


Figure 3

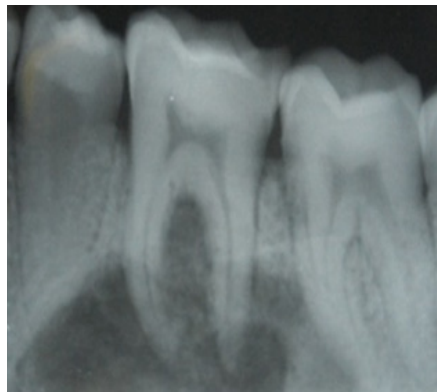


Figure 4



Figure 5



Figure 6



Figure 7

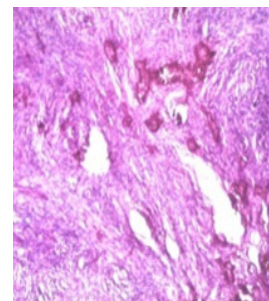


Figure 8

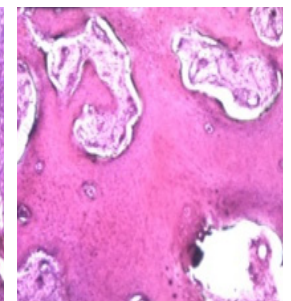


Figure 9

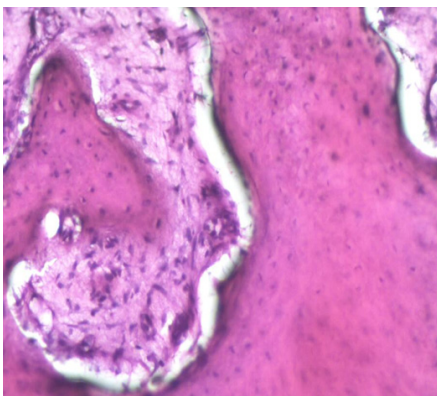


Figure 10

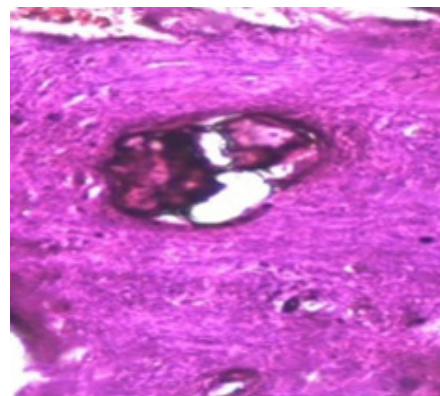


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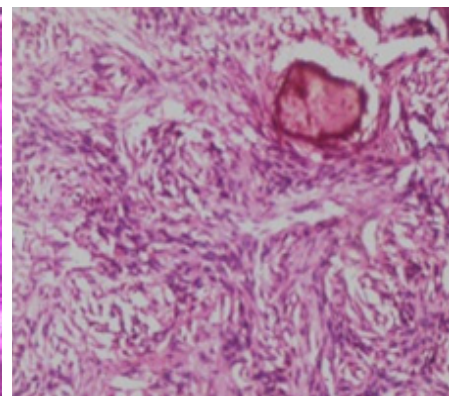


Figure 12



Figure 13

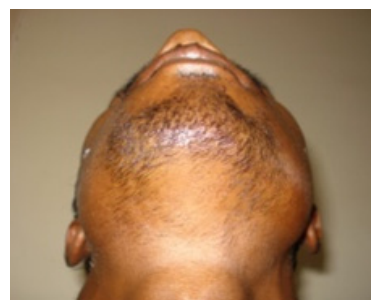


Figure 14



Figure 15