

Odontogenic fibroma: A case report

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Abstract

There are large number of pathologies that can produce swelling of soft & hard tissues in oral cavity & are often difficult to diagnose. They can be in the form of developmental anomalies, cysts, inflammatory reactions & neoplasms either benign or malignant. Group of fibro – osseous lesions are there which have both the fibrous & osseous components. They include fibrous dysplasia, Odontogenic fibroma, ossifying fibroma, cementifying fibroma. This article presents a rare case of Odontogenic fibroma in left posterior maxilla in a 13 yr old female.

Key words: Fibro osseous lesions, Odontogenic Fibroma, Ossifying Fibroma, Maxilla

Introduction

The central odontogenic fibroma (COF) is a rare and benign neoplasm of odontogenic ectomesenchyme that could appear very similar to the endodontic lesions and/or to the other odontogenic tumours^{1,2}. This lesion is considered to be derived from the mesenchymal tissue of dental origin such as periodontal ligament, dental papilla, or dental follicle^{3,4,5,6}. The central odontogenic fibroma consists of collagenous fibrous connective tissue containing varying amounts of odontogenic epithelium³. Connective tissue proliferation can have different localizations and there exist both intraosseous (central) and gingival (peripheral) lesions designated as odontogenic fibroma. While peripheral odontogenic fibroma clearly represents a periodontal lesion, the central odontogenic fibroma usually resembles an endodontic lesion and it is reported in endodontic or oral pathology journals^{7,8}. Some authors in an international classification of oral tumours have reported that some COF could contain varying amounts of hard tissue resembling dysplastic cementum or bone⁹. Clinically, the central odontogenic fibroma could appear as an asymptomatic expansion of the buccal or lingual cortical plate, occurring in the mandible and in the maxilla with equal frequency. In the maxilla the lesion appears frequently to involve the anterior region, whereas in the mandible the lesion tends to be located in the posterior area, involving the premolar and molar areas. The radiological examinations of this lesion appear as an area

of radiolucency or as an area with a mixed radiodensity, most of the time the lesions have well-defined borders¹⁰. The central odontogenic fibroma has been described as a unilocular^{11,12} or a multi-locular radiolucent lesion¹³, root resorption and displacement have also been reported in cases of more severe lesions. They have some chances of recurrence but prognosis is good so we planned to surgically remove the lesion & have a periodic review.

Case report

A 13 years old female patient reported to oral & maxillofacial surgery OPD with a chief complaint of painless, hard swelling, gradually increasing in size since last 4 - 5 months in left upper jaw. There was no history of trauma or any decayed teeth in that region. The patient had no relevant medical history.

On examination extraorally, there was slight swelling in left cheek region causing slight facial asymmetry. The swelling was non tender. There were no regional lymphadenopathy.

Intra orally, hard non tender swelling of about 3.5 cm × 3 × 3.5 cm size was present in buccal aspect of teeth 24, 25 & 26 (Fig 1). The involved teeth 24 & 25 were grade III mobile & 26 was grade I mobile. The teeth were non tender to vertical & lateral percussion. Oral hygiene status was fair. The patient's blood reports were normal.

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IOPA radiograph (Fig 2) revealed well circumscribed radiolucency of about 3 × 3 cm size with clear borders & some radio opaque flecks within radiolucency. The roots of 24 & 25 were displaced. The apex of 25 was incomplete without any obvious root resorption.

Aspiration was negative & there was absence of any fluid, blood or pus.

Differential diagnosis

- Odontogenic fibroma.
- Ossifying fibroma.
- Desmoplastic fibroma.
- Ameloblastoma.
- Calcifying Odontogenic cyst.
- Fibrous dysplasia.
- Central giant cell granuloma.

Treatment

The lesion was planned for surgical enucleation and the specimen was sent for histopathological examination for confirmatory diagnosis. Sulcular incision extending from tooth 22 to 26 was made with 2 releasing incisions, one on mesial aspect of 22 & the other on distal aspect of 26 was given. The trapezoidal muco periosteal flap was

raised and the overlying expanded & thinned cortical plates were removed with bone rongeur.

The underlying soft tissue mass which was whitish grey in color was exposed. There were 2 masses of 3 × 2.5 cm & 2 × 2 cm respectively. The mass had glistening smooth surface. They were enucleated along with the tooth 24 which was embedded in the lesion (Fig 3). Bony cavity was debrided, sharp margins smoothed & wound closed with 3 – 0 silk suture. Post operative instructions were given.

Post operative medications including antibiotics (amoxicillin 250 mg TDS × 5 days) & analgesics (ibuprofen 200 mg tds) were prescribed with chlorhexidine mouth wash for daily use. Healing was uneventful. The sutures were removed on 7th post operative day & patient was given clear instruction to maintain oral hygiene & periodic follow up.

Specimen was sent for biopsy. Histopathological analysis revealed whorled pattern of fibroblastic activity with interlacing collagen bundles & uniform distribution of fibroblasts. Numerous amorphous calcification were seen in supporting collagen which were suggestive of simple Odontogenic fibroma.



Fig 1: Pre operative view

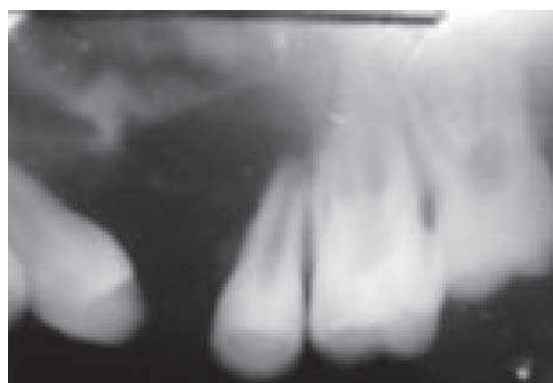


Fig 2: IOPA Radiograph

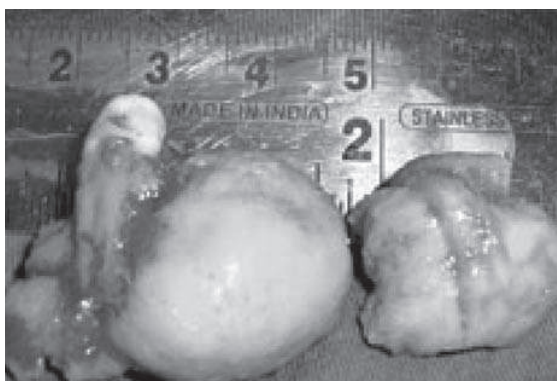


Fig 3: Enucleated mass

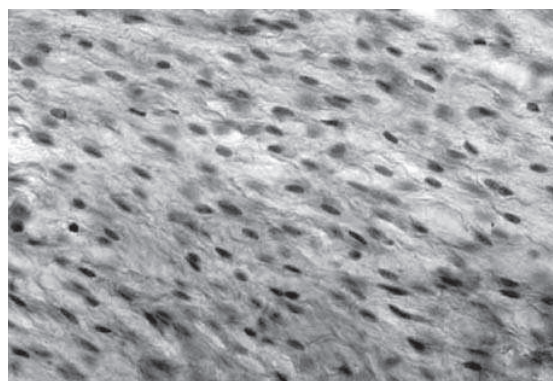


Fig 4: (Microscopic view)

Discussion

Although the central odontogenic fibroma is a rare lesion⁶ of periodontium, it should be considered as it closely resembles endodontic lesions. According to Neville, the lesion is reported to occur in patients whose age ranges from 4 to 80 years (mean age of occurrence being 40 yrs) with a 2.2 : 1 female : male ratio. About 55 % cases are found to occur in mandibular posterior region & 45 % in maxillary anterior region. The case reported here occurred in a 13 years old female in maxillary premolar region. The lesion usually is asymptomatic & often causes spacing as teeth involved are displaced. Larger lesions often are associated with bony expansion & loosening of teeth. In this case also there was expansion of buccal cortical plate & mobility of associated teeth.

Radiographic features were also compatible with radiolucent lesion with well defined borders. Small lesions (approx 2 cm) are usually unilocular where as larger lesions (approx 4 cm) usually have multilocular appearance. Many cases of COF shows displacement of adjacent teeth & sometimes root resorption & occasional radio-opaque flecks (12%)^{14,15,16}. The case reported here also had unilocular radiolucency with well defined borders along with displacement of adjacent teeth without any root resorption. Radiolucency also contained some radio opaque flecks.

Radiographic features are similar to other peripheral odontogenic tumours as traumatic bone cyst, Ameloblastoma, odontogenic cyst, central giant cell granuloma, Fibro osseous lesions & ossifying fibroma¹⁷.

Histo pathologically 2 different patterns have been described. Simple & WHO type also known as complex form (Gardener). Simple form is composed of stellate fibroblasts arranged in a whorled pattern with fine collagen fibrils. Small amount of odontogenic epithelium may or may not be present. Occasional foci of calcification may also be seen^{14,18}. More collagenized form need to be differentiated from desmoplastic fibroma which is a more aggressive form. However, they do not have an epithelial component. WHO type has a more complex pattern with a myxoid to densely hyalinised fibrous component & odontogenic epithelium in the form of long strands or isolated nests throughout the lesions^{14,18}.

The case being reported here has histopathologic features of simple type with absence of odontogenic epithelium. COF does not show any adherence & is easily separable from underlying bone. As in this case the lesion was well demarcated from surrounding bone & separated from underlying bone through enucleation & curettage.

Cases of recurrence after 9 years of surgery¹⁹ have been reported. In other clinical study 2 out of 15 cases had recurrence²⁰.

Conclusion

Clinical, radiological & histological aspects of case reported here were consistent with diagnosis of central odontogenic fibroma from periodontal ligament. Lesion was surgically removed. Post operatively the outcome was satisfactory.

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