OSSIFYING FIBROMA OF MANDIBLE: A CASE REPORT

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Abstract:

The term, fibro-osseous lesions, refers to a diverse process in which the normal bone architecture is replaced by fibroblasts and collagen fibers containing variable amounts of mineralized material. Ossifying fibromas are uncommon benign tumors of the craniofacial skeleton thought to originate from the periodontal ligament. Most are small and incidentally diagnosed with routine dental radiographs. With larger lesions, patients may complain of an abnormal bite or an enlarging mass. This tumor involves slow-evolving growth with deforming swelling generally arising in the mandible, with possible early tooth displacement. From the radiological perspective, more than 50% of the lesions exhibit an expansion of the jaws and 53% shows well-defined unilocular radiolucencies and 40% are mixed radiolucent-radiopaque lesions.

This article presents a case, a 40-year-old female patient presented with minimal clinical symptoms, diagnosed as from ossifying fibroma .

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Key words:. Fibro-Osseous Lesion, Ground Glass Appearance

Introduction

Ossifying fibromas form a part of the spectrum of fibro-osseous lesions of the jaws. They are rare, benign, nonaggressive tumors that are commonly seen in head and neck region.

Fibro-osseous lesions are a diverse group of processes that are characterized by replacement of normal bone by fibrous tissue containing a newly formed mineralized product [1]. Ossifying fibroma is a rare, destructive, deforming, slow growing, benign fibro-osseous tumor. It is usually found in the craniofacial bones, with the mandible being the most common site. Less commonly, the orbit, paranasal sinuses, or maxilla have also been involved. Computed tomography (CT) imaging plays a major role in detecting the extent of such lesions, their diagnosis, and planning the management.

We report a case of ossifying fibroma of the mandible that presented with minimal clinical symptoms.

CASE REPORT:

A 40-year-old female patient reported to department of oral and maxillofacial surgery with the complaint of painless swelling in left lower back tooth region since 1 year (fig. 1) . It was nonprogressive and asymptomatic. General physical examination did not reveal any abnormalities. On extraoral examination face was bilaterally asymmetrical with slight swelling present on left lower face . Overlying skin was normal in appearance. Palpation revealed a diffuse swelling in left lower posterior region.

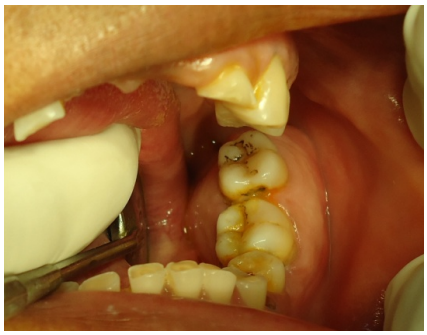

Fig.1 Bony hard swelling seen buccally and lingually in 37,38 region

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Intraoral examination revealed diffuse expansion of buccal cortex in left mandibular posterior area, extending anteroposteriorly from distal of lower left second premolar to retromolar region , measuring approximately 4x3 cm in size. Overlying mucosa was normal in appearance. Lingual expansion was also present in the same region (Figure 1). It was nontender and hard in consistency. Lower left third molar exhibited Grade II mobility. Clinical features were suggestive of a fibro-osseous lesion arising from mandibular basal bone.

On carrying out further investigations, the haematological values were within normal limits. Intraoral periapical radiograph revealed diffuse hazy radioopacity suggestive of ground glass appearnce with loss of lamina dura of second and third molar. Panoramic view additionally revealed diffuse radioopacity from second premolar to retromolar area and displacement of left lower second and third molar (fig. 2).

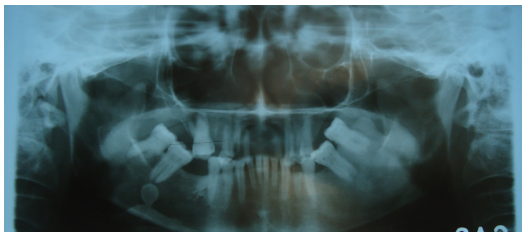

Fig. 2 OPG shows increase radioopacity and displacement of 37,38

CT sections showed, extention of lesion from second premolar to almost reaching upto posterior border of mandible anteroposteriorly, and from alveolar process to lower border of mandible(fig.3) and expansion of buccal and lingual cortical plates(fig. 4).

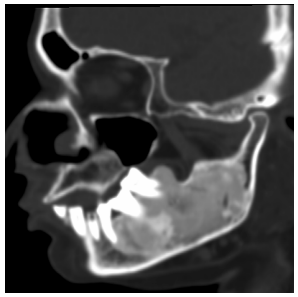

Fig. 3 CT showing extension of lesion

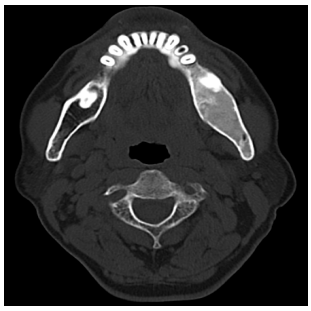

Fig. 4 CT showing buccal and lingual cortical plate expansion

Provisional diagnosis of fibro- osseous lesion was made. Incisional biopsy done done under local anaesthesia from the buccal side of the lesion and sent for histopathological examination (Fig.5). The overall clinical, radiological and histopathological picture was consistent with central ossifying fibroma

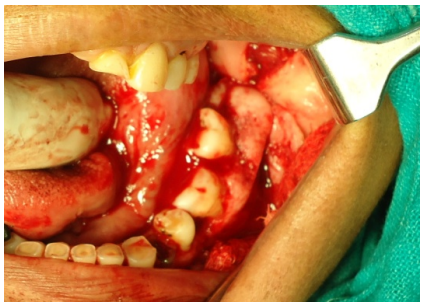

Fig.5 Intra operative photograph

Under general anesthesia bone contouring done intraorally on the buccal and lingual side and extaction of 37 and 38 done, and flap sutured.Post operative healing was uneventful (Figure 6).Patient was followed up for one year without any sign of recurrence (fig.7).

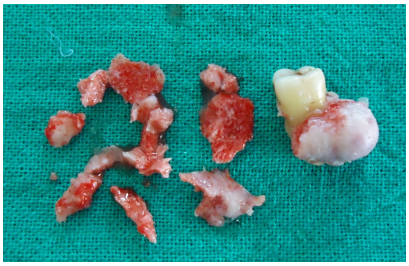

Fig.6 Excised tissue

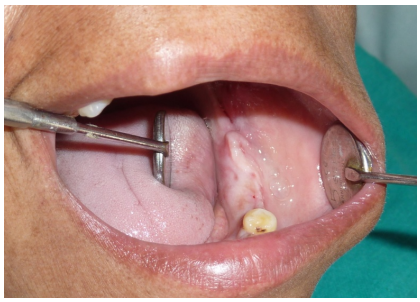

Fig.7 One year post operative photograph

DISCUSSION- Ossifying fibroma was first described by Menzel in 1872. It is a rare, benign primary bone tumour that occurs most commonly in the jaw. Montgomery in1927 coined the term "ossifying fibroma" [2]. It is a well-demarcated and occasionally encapsulated lesion consisting of fibrous tissue with varying amounts of mineralized material resembling bone and/or cementum. This uncommon tumour can present a diagnostic dilemma for the clinician and the pathologist, owing to overlapping clinical and histomorphologic features. Ossifying fibroma generally manifests in the third or fourth decades of life with a female predilection. Most common site is mandibular premolar-molar region, and about 30% of cases occur in maxilla. When this tumour arises in children, it has been named the *juvenile aggressive ossifying fibroma*, which presents at an early age and is more aggressive clinically and more vascular on pathologic examination [3, 4]. Histogenesis of ossifying processes appears to be of two possible origins: the excessive proliferation of periodontal ligaments and a metaplastic process occurring in the connective tissue fibers (nonperiodontal in origin), with the former being more common [4].

The radiographic features of ossifying fibromas, reported in the literature, vary markedly. The majority of them present as well-defined mixed density lesions with few being radiolucent. The radiological appearance depends upon its maturity. They have radiographically well-defined borders, accompanied by marginal sclerosis and a thin cortex. Loss of lamina dura and root resorption and/or divergence of associated teeth may be noted [5–7]. Aggressive lesions tend to have ground glass appearance similar to our case [8]. Histologically, the ossifying fibromas are well circumscribed, occasionally encapsulated, consisting of cellular fibrous tissues and thin isolated trabeculae of bones. The bone may show osteoblastic rimming and spherical deposits of calcified material, which are relatively acellular resembling cementum. The lack of consistent osteoblastic rimming of the bone trabeculae in fibrous dysplasia is used to distinguish it from an ossifying fibroma, which is more commonly rimmed by plump osteoblasts . Most authors consider fibrous dysplasia and ossifying fibroma to be histologically similar—with the sole differentiating feature being a fibrous capsule surrounding the latter and infrequently observed in the case of fibrous dysplasia. However, aggressive form of ossifying fibroma may lose its fibrous capsule. If the lesions are small, they are treated by enucleation. However, larger lesions require radical resection. Recurrence rates of these aggressive forms of ossifying fibromas are about 30% to 38% [9]. Thus a regular followup is necessary.

Conclusion

The ossifying fibroma of the mandible is an uncommon benign tumour. Cosmetic and dental occlusal problems are often the first manifestations of these lesions as they are clinically asymptomatic. CT imaging plays a major role in determining the extent of such lesions, their diagnosis, and treatment planning.

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