Peripheral Ossifying Fibroma: A Case Report

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ABSTRACT
The purpose of this article is to present a clinical case of a 23-year-old male patient with peripheral ossifying fibroma (POF) in the mandibular right central and lateral incisor region. Clinically, the lesion was asymptomatic, firm, pink and sessile. Surgical excision of the lesion was done followed by histopathologic confirmation with emphasis on the clinical aspect.

INTRODUCTION
Gingival enlargement is a common feature of gingival disease. Among them localized gingival overgrowth are encountered more frequently in the oral cavity and peripheral ossifying fibroma (POF) is one of them.1,2 The bone fibrous lesions were broadly classified into three categories: fibrous dysplasia, reactive lesions (periapical cemento-ossifying dysplasia, focal cemento-ossifying dysplasia, fibrous ossifying dysplasia), and ossifying fibroma neoplasias.3 Reactive lesions (central and peripheral) mainly involve craniofacial bones.4

Central ossifying fibroma is an endosteal origin which expands into the medullar space of the bone, whereas POF originates from periodontal ligament cells which do not expand.5,6 The term POF was proposed by Eversol and Robin in 1972.7 POF represents 2–9% of all gingival lesions and it is the third most common lesion of all localized reactive hyperplastic lesions after pyogenic granuloma and giant cell central granuloma.6

The etiology of POF is not clear but fairly acceptable theory states that it originates as an inflammatory hyperplasia from the cells of the periodontal ligament. This is why POF occurs exclusively in gingiva that is in close proximity to the periodontal ligament.8 Moreover, there has been evidence of calcified matrix-rich oxytalan fibres included in the POF.9 The inflammatory reaction in POF could be due to local irritants such as plaque and other mechanical irritating factors.9 There is evidence of bone formation and dystrophic calcification which could be due to connective tissue metaplasia of chronically inflamed periodontal ligament and periosteum.4

Clinically, the lesion appears as a nodular mass which may be pedunculated or sessile, pink to red in colour with different grades of inflammation depending on the presence of local irritating factors and sometimes the surface might be ulcerated.

The basic microscopic pattern is one of a fibrous proliferation associated with the formation of a mineralized product. In an ulcerated lesion the epithelium covered by a fibrinopurulent membrane with a subjacent zone of granulation tissue. The deeper fibroblastic component often is cellular, especially in areas of mineralisation. The type of mineralized component is variable and may consist of bone, cementum-like material or dystrophic calcifications. Frequently, a combination of products is formed. Usually, the bone is woven and trabecular in type, although older lesions may demonstrate mature lamellar bone.10

The treatment of choice is local surgical excision with submission of the specimen for histopathologic examination. The mass should be excised down to periosteum because recurrence is more likely if the base of the lesion is allowed to remain. In addition, the adjacent teeth should be thoroughly scaled to eliminate any possible irritants.

CASE DESCRIPTION
A 23-year-old male patient was presented to the periodontal consultation at Narayana Dental College and Hospital with a complaint of mass in the gingival tissue in the lower front teeth region (Fig. 1a). The mass appeared approximately 3 months before the consultation and had gradually increased in size until the time of the interview. The growth was painless, and the patient denied any other symptoms, while past medical, hereditary and drug history was unremarkable. Intraoral exploration showed a well-defined painless, and the patient denied any other symptoms, while past medical, hereditary and drug history was unremarkable. Intraoral exploration showed a well-defined...
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Histopathological examination revealed a large central area of calcified mass composed of interconnected trabeculae of immature bone with osteoid and osteoblastic rimming. Few spicules of trabeculae were also seen lying close to it. The immediately surrounding and intervening connective tissue is very cellular with ovoid cells. A covering parakeratinised hyperplastic oral epithelium is noted with a fibrocellular lamina propria. A variable chronic inflammatory cell infiltrate is observed. Many spindle or oval plum cells and many small capillaries are noted. Few scattered irregular basophilic calcifications are seen. Histopathologic diagnosis was ossifying fibroma with superimposed inflammatory changes (Fig. 3a, b).

Differential Diagnosis

The differential diagnosis included fibrous hyperplasia, pyogenic granuloma and peripheral giant cell granuloma and peripheral odontogenic fibroma.

Investigations

Initial investigations include intraoral periapical radiograph (IOPAR) in relation to 41, 42 and a complete haemogram.

IOPAR showed intact laminadura in relation to 41 and 42. No significant bony changes were observed (Fig. 2).

Treatment

The proposed treatment was excisional biopsy with deep scaling and curettage. The patient was evaluated for fitness to undergo a surgical procedure. After taking written consent, scaling and root planning were done before initiating surgery. Under local anaesthesia, the lesion was completely excised down to the bone to clear the cells of origin and the adjacent teeth were again cleaned to avoid any source of irritation and the biopsy specimen was submitted for histological analysis.

Final Diagnosis

Based on the clinical, radiographic and histological findings the lesion is diagnosed as POF.

Follow-up

Six months postoperative follow-up was done and no signs of recurrence were observed (Fig. 1b).

CONCLUSION

POF is a chronic lesion. As most of the POF lesions are asymptomatic, patients will seek treatment after a long period. If the lesion is not treated it might enlarge in size and interfere with mastication and in some cases there might be pathological migration of teeth. POF mimics other soft tissue growths in the oral cavity. Diagnosis should be confirmed by radiographic and histological examination. Proper excision of the lesion down to the bone should be done to clear the cells of origin further preventing recurrence. Close postoperative follow-up is required as the lesion has high recurrence rate.

REFERENCES

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