

## Peripheral ossifying fibroma: A case report

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### Abstract

Peripheral ossifying fibroma (POF) is a reactive overgrowth occurring frequently in anterior maxilla originating from connective tissue or periodontal ligament. They are firm, nodular, slow growing, spherical tumors. POF, one of the most common gingival lesions, has a recurrence rate of nearly 20%. To minimize the reappearance of this lesion it must be completely excised. A 57 year old female presented with a firm, sessile, painless, broad based, gingival mass approximately 2x2 cms between maxillary central and lateral incisors with a history of trauma on left maxillary central incisor 5-6 months back. It was excised conservatively by removing the free gingival margin and surrounding tissue. Histopathological diagnosis showed stratified squamous epithelium with underlying stroma showing dense interlacing collagen fibers, spindle shaped fibroblasts and areas of dystrophic calcification suggestive of Peripheral ossifying fibroma.

**Keywords:** Dystrophic calcification, Sessile, Stratified squamous epithelium.

### Introduction

The ossifying fibroma occurs almost exclusively in bones of the craniofacial region, especially in the jaws. Two types of this lesion have been defined traditionally: (1) the one arising from the endosteum or the periodontal ligament adjacent to the root apex and expanding from the medullary cavity of the bone called the central type and (2) the other which exhibits a contiguous relationship with the periodontal ligament, occurring solely on the soft tissues covering the tooth-bearing parts of the jaws called the peripheral type.<sup>(1)</sup> Calcifying fibroblastic granuloma, sometimes used as a referral name for Peripheral ossifying fibroma (POF), is a localised reactive enlargement of gingiva that typically measures less than 1.5cm at its greatest dimension.<sup>(2)</sup> It is relatively common, accounting for 9.6% of all biopsied gingival lesions.<sup>(3)</sup> The POF may appear ulcerated and erythematous or exhibit a colour similar to surrounding gingiva. It may be pedunculated or sessile and does not blanch upon palpation. POF occurs approximately 2-4 times more frequently in females than males,<sup>(2,4,5)</sup> most often in the ages of 25-35 years.<sup>(5,6)</sup> It has a slight predilection for the anterior maxilla, with more than 50% of all lesions occurring in the incisor cuspid region.<sup>(7)</sup>

POFs are frequently associated with irritants like plaque, calculus, ill-fitting crowns and rough restorations, while its etiology is unclear.<sup>(8)</sup> Its occurrence is correlated with the presence of periodontal ligament and since it occurs exclusively on gingiva,<sup>(9)</sup> POFs are thought to originate from periodontal ligament cells. POFs may exhibit diffuse radiopaque calcifications, but not all lesions exhibit these radiographic features.<sup>(10)</sup> The vast majority of these lesions are not associated with radiographic destruction of bone.<sup>(11)</sup> Histologically, POFs can exhibit either an intact or ulcerated stratified squamous epithelium.<sup>(2)</sup> With central areas of calcification, the

deeper fibroblastic component is highly cellular. The mineralised tissue may consist of bone, cementum like material, dystrophic calcification, or a combination of each.<sup>(7)</sup> Histologically, POFs are less vascular than pyogenic granulomas and more cellular than fibromas. POFs have a relatively high rate of recurrence of approximately 20%.<sup>(3,5)</sup> It is important to completely excise the lesion, to minimize this tendency, including the involved periosteum and periodontal ligament.

### Case Report

A 57yr old patient reported to the Department of Periodontology, Seema Dental College & Hospital, Rishikesh with a chief complaint of a painless mass in upper front tooth region that had grown to its present size over a period of one month. There was a history of trauma on left maxillary central incisor 5-6 months back. There was no history of pain. Clinical examination of the oral cavity revealed a firm, pale pink, sessile, painless, broad based, gingival mass (**Fig. 1 & 2**), approximately 2x2 cm between maxillary central and lateral incisors. On palpation soft tissue mass was found to be firm in consistency and non-tender in nature. The patient was given local anesthesia and the mass was excised with a bard parker handle and blade no. 15 (**Fig. 3**).

The patient presented for a follow-up examination 1 month postoperatively. The surgical site appeared to be healing well (**Fig. 5**). There was no evidence of recurrence of the lesion, and the patient was asymptomatic.



**Fig. 1: Facial view**



**Fig. 5: 1 month post-operative**



**Fig. 2: Palatal view**

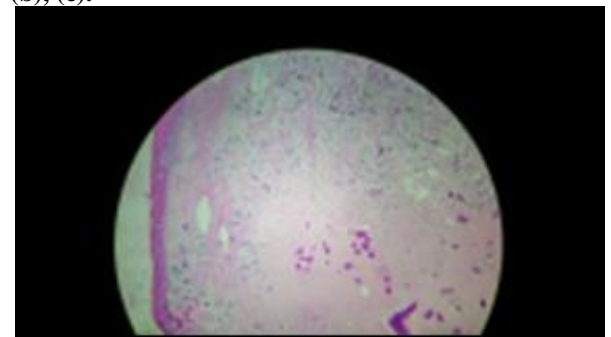


**Fig. 3: Surgical excision of the lesion**

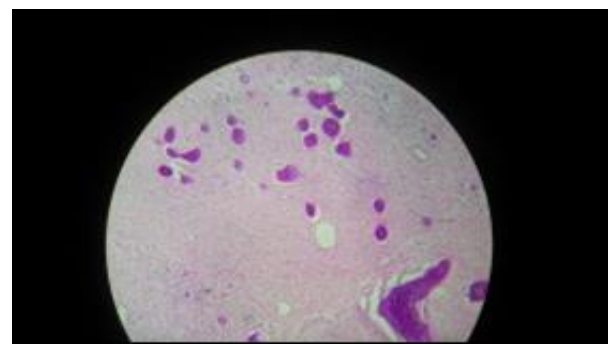


**Fig. 4: Excised lesion**

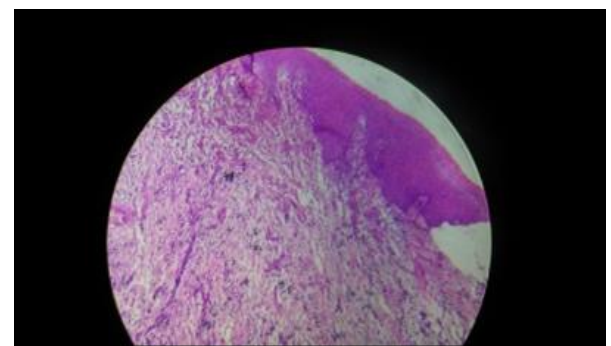
Histopathological diagnosis showed stratified squamous epithelium with underlying stroma showing dense interlacing collagen fibers, spindle shaped fibroblasts and areas of dystrophic calcification suggestive of Peripheral ossifying fibroma **Fig. 6(a), (b), (c).**



**Fig. 6a**



**Fig. 6b**



**Fig. 6c**

**Fig. 6:** (a)5X,(b)10X,(c)40X shows stratified squamous epithelium with underlying stroma showing dense interlacing collagen fibers, spindle shaped fibroblasts and areas of dystrophic calcification suggestive of Peripheral ossifying Fibroma

## Discussion

POF is a reactive proliferation exclusive to gingival mucosa. Peripheral fibroma with calcification,<sup>(5)</sup> ossifying fibrous epulis,<sup>(6)</sup> and calcifying fibroblastic granuloma are the various synonymous terms used for POF.<sup>(12)</sup> Peripheral odontogenic fibroma and POF has often been used interchangeably with each other. However, the peripheral odontogenic fibroma should not be used synonymously with POF as it is now considered to be the extraosseous counterpart of the neoplastic central odontogenic fibroma.<sup>(7,8)</sup> The term peripheral ossifying fibroma is advocated by many investigators to escape this confusing nomenclature. The etiology of POF is unknown. However, trauma or local irritants, such as dental plaque, calculus, ill-fitting dental appliances, and poor quality dental restorations, have been implicated to play a significant role in its etiology and pathogenesis. Inflammatory hyperplasia originating in the superficial periodontal ligament (PDL) is considered to be a factor in the histogenesis of the POF.<sup>(4,13)</sup> Exclusive occurrence on the gingiva, the proximity of gingiva to PDL, and the inverse correlation of age distribution of lesions with the number of lost teeth and their corresponding PDL, these findings are frequently associated with POF. Furthermore, high female predilection, rare occurrence in the first decade, and decline in incidence after age of 30yr suggest that hormonal influence may be a factor for lesional growth to be considered in such cases.<sup>(9,13)</sup>

## Conclusion

POF is a slowly progressing lesion, mostly affecting the anterior maxilla. Many cases will progress for long periods before patients seek treatment because of the lack of symptoms associated with the lesion. A slowly growing pink soft tissue nodule in the anterior maxilla of an adolescent should raise suspicion of a POF. Discussion of the differential diagnosis should be done tactfully to prevent unnecessary distress to the patient and family. Treatment consists of surgical excision, including the periosteum, and scaling of adjacent teeth. Postoperative follow-up is required closely because of the 8%–20% recurrence rate of incompletely excised lesions.

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**Conflict of interest:** None

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