

Dental Calculus Induced Peripheral Ossifying Fibroma: A Clinical Case Report

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Abstract

Fibromas are benign growths of fibrous, connective tissue. Gingiva is a common site of oral fibromas. Owing to similar and overlapping presentation of various oral lesions, arriving at a specific diagnosis becomes difficult. Lesions like pyogenic granuloma, irritational fibroma, Peripheral Ossifying Fibroma (POF) and Angio-granuloma are more or less indistinguishable. POF is a relatively rare gingival lesion with multiple histopathologic presentations. The pathogenesis of POF is not amply clear though it is considered reactive in nature. Etiological stimulus may be irritation from dental calculus, plaque, orthodontic appliances or faulty restorations. A clinical report of a 67 year old male with a large peripheral ossifying fibroma in the anterior maxilla showing profuse growth resulting in facial asymmetry and causing masticatory discomfort, is presented. Surgical excision of the lesion was done and subsequent histopathologic confirmation of excised sample confirmed the clinical diagnosis.

Keywords: Peripheral Ossifying Fibroma; Dental Calculus; Surgical Excision.

INTRODUCTION

Peripheral ossifying fibroma (POF) is a benign, reactive soft tissue overgrowth that is more commonly seen in the anterior maxilla with a predilection for occurrence in females.¹ It may be pedunculated or sessile, with a smooth or ulcerated surface. It may present as pinkish, reddish pink

or cherry red in color. Its prevalence ranges from 6-10% of all gingival enlargements.² Interdental bone destruction and migration of teeth has been reported.³ Size of the lesion is usually <1.5 cm, however lesions as large as 9 cm have been reported.⁴ The origin may be from Periodontal Ligament or Periosteum and in some cases from gingival corium.⁵

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CLINICAL REPORT

A 67 year old male reported with the chief complaint of soft tissue growth in his left upper front tooth region of jaw. Intraoral examination revealed a painless pedunculated, cerebrum-like, hard and firm mass on facial aspect of the maxillary left permanent canine, 1st and 2nd Premolars approaching the incisal and occlusal surfaces of teeth (Fig. 1). The lesion was abnormally large

about 3.5 cm mesiodistally and 2.5 cm buccopalatally (Fig. 2). Radiograph revealed only soft tissue shadow and space between maxillary 1st and 2nd premolars. The maxillary first and second permanent premolars were displaced (Fig. 3). History revealed that the lesion started growing

on its own 9 months back. The patient reported to us after getting concerned of its increasing size. The lesion was painless and occasionally bled on its own. It resulted in facial asymmetry and also interfered with occlusion. There was no significant medical and familial history.



Fig. 1



Fig. 3

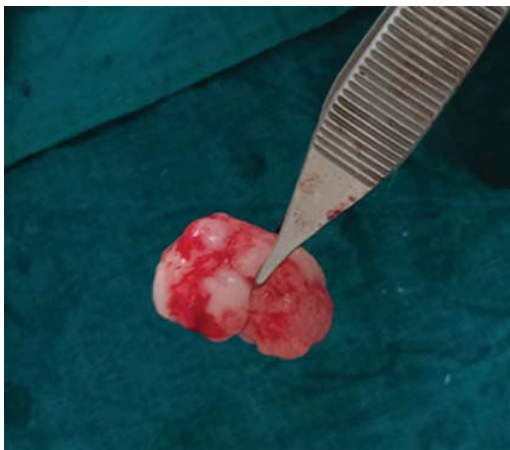


Fig. 2



After routine baseline examinations, excisional biopsy of the lesion was done. Meticulous curettage of the adjacent periodontal ligament, and periosteum was carried out to prevent any possible recurrence of the lesion. Histopathological examination revealed overlying atrophic para-keratinized stratified squamous epithelium with

intermittent flat and blunt rete ridges.

Subjacent connective tissue had both loosely and densely arranged collagen bundles with evidence of calcifications in the form of bony trabeculae. The bony trabeculae revealed well defined osteoblastic rimming with entrapped osteocytes in the lacunae (Fig. 4) confirming the lesion as POF.

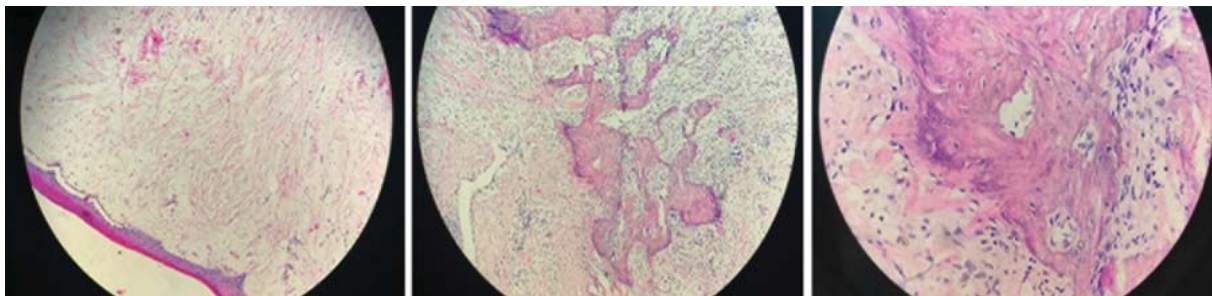


Fig. 4

The follow-up of the case showed normal healing of the area (Fig. 5).



Fig. 5

Discussion

POF is known by a multitude of names in oral pathological literature fibrous epulis, calcifying fibroblastic granuloma, peripheral cementoossifying fibroma, peripheral odontogenic fibroma (PODF) with cementogenesis, peripheral fibroma with osteogenesis, peripheral fibroma with calcification.^{5,6} Almost 60% of the lesions occur in the maxilla and mostly occur anterior to molars.¹ Dental calculus, plaque, microorganisms, dental appliances, and restorations are considered to be the irritants triggering the lesion.⁷ Besides causing obvious discomfort to the patient, a large POF lesion may result in facial asymmetry, bony destruction, tooth displacement and in itself is plaque retentive as well. POF has been reported as a cosmetic deformity lesion.⁸

In their large series, Eversole and Rovin; Buchner and Hansen and Kenney *et al.* reported a peak of prevalence of POF in the second decade.^{1,9,10} In our case, patient was in 7th decade which can be explained by the fact that the current case was a rare presentation of enormous accumulation of dental plaque and calculus and very poor dental hygiene habits.

The ulcerated lesions are more likely to be painful but, in this case, it was not painful as surface was smooth and non-ulcerated. Gingival lesions that imitate POF are peripheral giant cell granuloma, pyogenic granuloma, fibroma, calcifying epithelial odontogenic cyst, calcifying odontogenic cyst, etc.¹¹

Radiographically radiopaque foci within the soft tissue mass of POF may be observed which is a direct function of the calcified element within the lesion. The calcified element may discern in 4 forms,

trabecular mature bone, immature bone, granular foci or amorphous granular foci.⁵ Cementum like material may also be found in some POF lesions.¹ However, in this case no radiopaque foci were found. A soft tissue shadow of the lesion could be appreciated probably because the lesion was of gingival origin.

Treatment involves definitive surgical intervention ensuring deep excision and debridement. Scaling and root planing of involved and adjacent teeth with removal of other sources of irritants is a pre-requisite. The recurrence rate varies from 7 to 20% according to different authors.⁷

Keeping in consideration the recurrence rate, surgeons should accomplish complete elimination of lesion down to the bone level, involving the adjacent periosteum and periodontal ligament.⁶ However, lesions of gingival origin, if clinically discernable, may be excised with lesser degree of invasiveness. Other techniques like Cold blade, Nd-YAG laser and QMR scalpel may also be considered for excising POF with added advantages.¹²

In conclusion, dental calculus is a strong etiological irritant that can result in reactive lesion of POF. Irrespective of the surgical technique employed, elimination of the etiological factors is of utmost significance. The tissue should be histologically examined for confirmation.

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Conflict of Interest: None declared.

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