



## CASE REPORT

### AN UNUSUAL PRESENTATION OF PERIPHERAL OSSIFYING FIBROMA IN MANDIBULAR ANTERIOR REGION- A CASE REPORT

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#### ABSTRACT

Peripheral ossifying fibroma (POF) is a non-neoplastic reactive gingival overgrowth occurring frequently in the anterior maxillary region. Occurrence of POF in mandible is uncommon as compared to maxilla. It represents up to 2% of all oral lesions involving gingiva that are biopsied. In this case report we are presenting a case report of POF in mandibular anterior region in a 65 year old female. This case report describes the clinical features, etiopathogenesis, histopathology and treatment.

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## INTRODUCTION

POF is defined as a well demarcated and occasionally encapsulated lesion consisting of fibrous tissue containing variable amounts of mineralized material resembling bone (ossifying fibroma) (Waldrom, 1993), (Brad, 1999). It is considered as a hyperplastic reactive lesion, as various factors including local irritation, microorganisms, masticatory forces, minor trauma, trapped food and debris, microbial plaque, calculus and iatrogenic factors lead to development of the lesion (Norman k wood, 1997). Currently there are 2 types of ossifying fibroma, central type and peripheral type. The peripheral type occurs solely on the soft tissues covering the tooth bearing areas of the jaws and the central type arise from the endosteum or the PDL adjacent to the root apex and causes expansion of medullary cavity (Brad, 1999; Norman k wood, 1997 and Joseph Regezi, 2012). Here, we are presenting peripheral type of ossifying fibroma. It is commonly seen in teenagers and young adults. Sexual predilection of the lesion is more in females. The gingival region anterior to the permanent 1<sup>st</sup> molar is the most often affected site. The lesion colour is similar to mucosa or slightly red. Surface may be intact or ulcerated.

It appears as a well demarcated focal mass with sessile or pedunculated base. The treatment of choice is total surgical excision of the lesion which includes the underlying periosteum. This reduces the recurrence rate subject to elimination of all local factors (Prabhuji, 2012; Sairam, 2016 and Aena Jain, 2010).

## Case report

A 65 year old female patient reported in the Dept. of Periodontology, Krishnadevaraya College of Dental Science & Hospital, with a chief complaint of swelling in the lower front teeth region for the past 12 months. The lesion initially started as a small nodule and gradually increased in size over the period to its present size. The swelling interfered with the patient's speech and mastication. There was no history of either pain or bleeding from the lesion. Patient's past medical history revealed that she was hypertensive for the last 2 years and is under medication for the same. On clinical examination a single exophytic sessile gingival overgrowth seemingly originating from interdental and marginal gingiva located between teeth number 31 and 41 measuring approximately 8 x 6 mm in size with a reddish pink overlying mucosa without any ulcerations. (Figure 1 and 2) Palpation revealed a sessile base with firm consistency. The swelling was non tender with no apparent rise in temperature and devoid of pulsations. Grade II tooth mobility was observed in 31 and 41. All the

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routine hematological and urine investigations were within normal limits. Radiological examination revealed that no signs of involvement of alveolar ridge. There was increased spacing in between 31 and 41 suggestive of pathologic tooth migration (Figure 3).



**Fig 1. Labial View**



**Fig. 2. Occlusal view**



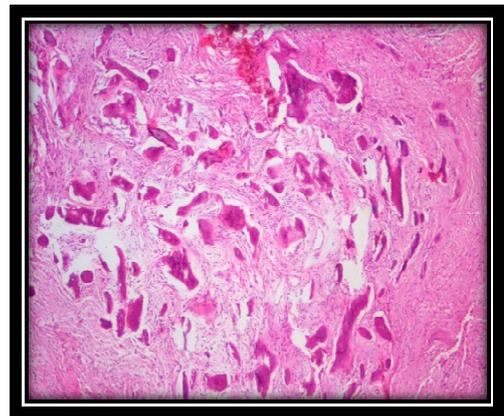
**Fig. 3. Orthopantomogram**

A provisional diagnosis of pyogenic granuloma with respect to 31 and 41 region was made. Surgical excision was scheduled 1 week after oral prophylaxis. Under local anaesthesia, complete surgical excision of the gingival growth was performed using scalpel. The lesion was excised 0.5-1 mm beyond its clinical extent and the underlying surface was thoroughly curetted and root planing was carried out on the adjacent teeth using the periodontal curettes. (Figure 4& 5) The excised lesion was submitted for histopathological examination. H&E staining revealed a hyperplastic parakeratinized stratified squamous epithelium with underlying connective tissue fibro cellular stroma containing collagen arranged in form of bundles. Presence of focal areas of ulceration with fibrino purulent membrane with entrapment of mixed inflammatory cells. Endothelial lined blood vessels were engorged and dilated.

Deeper C.T shows area of metaplastic bone and specks of dystrophic calcification. (Figure 6) Based on the clinical and histopathological findings the lesion was diagnosed as Peripheral Ossifying Fibroma. The patient was followed up for one year and there were no signs of recurrence (Figure 7 & 8).



**Fig. 4. Surgical Excision of Lesion**



**Fig. 6. Histopathologic Examination**



**Fig. 7. Postoperative After 12 Months**

## DISCUSSION

POF is defined as a well demarcated and occasionally encapsulated lesion consisting of fibrous tissue containing variable amounts of mineralized material resembling bone (ossifying fibroma) (Waldrom, 1993), (Brad, 1999). This entity was first reported as 'Alveolar exostosis' in 1844 by Shepherd. Bhasker *et al* in 1984 described this lesion as 'Peripheral fibroma with calcification'.



Fig. 8. Occlusal View

The term Peripheral ossifying fibroma (POF) was coined by Eversol and Robin (Joseph Regezi, 2012). POF has been cited in the literature under various names such as Peripheral cementifying fibroma, Ossifying fibroepithelial polyp, Peripheral Cemento ossifying fibroma, Peripheral fibroma with calcification (Aena Jain, 2010). POF accounts for 3.1% of all tumors and 9.6% of gingival lesions. The etiopathogenesis of POF is still unclear, but one of the possible reasons is irritants causing its growth in response to gingival injury, gingival irritation, subgingival calculus or a foreign body in the gingival sulcus (Prabhuji, 2012). There will be inflammatory hyperplasia of the cells of the periosteum or periodontal ligament and excessive proliferation of mature fibrous connective tissue due to chronic irritation of the periosteal and periodontal membrane. This causes metaplasia of the connective tissue and resultant initiation of formation of bone or dystrophic calcification (Brad *et al.*, 1999; Norman k wood, 1997 and Joseph Regezi, 2012). Some authors stated that POF lesions were simply a more mature variant of pyogenic granuloma and POF might have developed initially as PG. Subsequent maturation led to the ossification of the lesion (Pendyala, 2012). The mineralized component of peripheral ossifying fibroma varies from 23% to 75% (Farquhar *et al.*, 2008). It may consist of bone (trabeculae of unmineralised osteoid) cementum-like (ovoid basophilic droplets) and dystrophic calcifications (multiple tiny globules or large irregular mass). Radiographic changes varies from completely no changes to areas of calcifications depending upon the degree of mineralization (Farquhar, 2011 and Chhina, 2011). Mature lesions make it evident with flecks and patches of radiopacity at the centre of lesion. Superficial bone loss, cupping defect and focal areas calcification have been reported in some cases. Treatment includes local surgical excision down to periosteum and adjacent tooth thoroughly scaled to eliminate possible irritants followed by periodontal surgeries to repair gingival defect. Although excision is curative, recurrence rate of 8-16% (Cundiff) and 20% (Eversole) was reported.

The average period for first recurrence is 12 months. Reasons for recurrence involves incomplete removal of lesion, failure to eliminate local irritants, difficulty in access during surgical manipulation due to intricate location of POF in interdental areas (Chhina, 2011; Peripheral, 2011; Peripheral Ossifying Fibroma, 2012).

### Conclusion

POF is an uncommon slow growing reactive lesion of gingiva which goes unnoticed for long periods because of the lack of symptoms associated with the lesion. Prompt diagnosis and treatment is essential as it plays a major role on the prognosis of the lesion.

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