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Case Report

PERIPHERAL OSSIFYING FIBROMA – A CASE REPORT

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ABSTRACT

Peripheral ossifying fibroma (POF) is a reactive gingival overgrowth occurring frequently in the maxillary anterior region seen in younger individuals. Most of this enlargement is considered being reactive rather than neoplastic. Clinically differentiating this lesion is often difficult; hence definite diagnosis is established by histological examination, which reveals the positive result. In this article we present a case report of Peripheral ossifying fibroma (POF) in the anterior mandibular region of a 25 year old male patient with clinical and histological description with a 2 year follow up.

Keywords: Peripheral ossifying fibroma, Gingival overgrowth, Peripheral giant cell granuloma, Histology, Oral tumours.

INTRODUCTION

Localized gingival overgrowth is quite familiar in the oral cavity. It occurs exclusively on the gingiva and accounts for 3.1% of all oral tumours and 9.6% of gingival lesions¹. Peripheral ossifying fibroma (POF) is one of the most common inflammatory hyperplasia of gingival tissue². In literature confusion has prevailed in the nomenclature of POF with various synonyms, such as cementum ossifying fibroma, peripheral fibroma, peripheral odontogenic fibroma, calcifying fibroblastic granuloma³. POF was first reported by Shepherd in 1844 as alveolar exostosis. Eversol and Robin in 1971 coined the term peripheral ossifying fibroma⁴. It generally occurs in the younger age group with a female predominance. It has a predilection for anterior region. POF are generally sessile or pedunculated and exhibit a similar colour to the surrounding gingiva. Most of these lesions are less than 2 cm in size, despite the fact that larger lesions occur rarely⁵. These lesions are usually due to the local irritation like the presence of trauma, plaque, calculus, restorations and dental appliance which leads to the hyper responsive state. A definite diagnosis is made by the histological examination. POF is a gingival nodule composed of cellular fibroblastic connective tissue stroma associated with the formation of arbitrarily dispersed foci of mineralized product⁶.

CASE REPORT

A 25-year-old male patient visited Department of Periodontics, The Oxford Dental College, and Hospital, Bangalore. He reported with a history of swelling in the lower front tooth since 5 months. The swelling was gradual in onset and increased in size over 2 – 3 months and patient had experienced the pain since 3-4 days. The medical history was non-contributory. The clinical examination revealed a solitary oval sessile reddish growth seen on the labial aspect of lower left lateral incisor extending from distal aspect 31 to the mesial aspect of 33 involving the entire gingiva, measuring of 8x10mm (fig 1). It was soft in consistency, easily retractable; tender on palpation and bleeding on probing was present. A 5-mm periodontal pocket could be probed on the buccal aspect of the tooth. The patients had a poor oral hygiene. Periapical radiographic examination was within the normal limits, with no apparent bone loss around the tooth. The differential diagnosis consisted of pyogenic granuloma, irritation fibroma and peripheral giant cell granuloma.

Through scaling and root planning was performed to eliminate the irritating factors and patient was recalled after 3 weeks. The area was anaesthetized with mental nerve block for the gingival excision. The incision was made using a no.15 surgical blade (Fig 2). The lump was excised completely using

a both scapel and an electro-cautery device (Fig 3). After excision periodontal pack was placed. The excised tissue was sent to the department of oral pathology for histopathological examination (Fig 4).



Figure 1: Pre operative photograph showing gingival swelling in relation to left mandibular region



Figure 2: Incision placed.



Figure 3: The lesion was excised and the periodontal pack was given



Figure 4: The specimen was fixed in formalin and sent for histopathological examination.

Histopathological report revealed highly cellular fibrous connective tissue showing collagen fibres and proliferating stellate shaped fibroblast (Fig 5). A focal area of calcification resembling the bone like material and dense aggregates of chronic inflammatory cell infiltrate was seen. The overlying epithelium is of parakeratinized stratified squamous epithelium with moderate to marked proliferation. Based on this verdict a diagnosis of peripheral ossifying fibroma was given.

The patients presented for a follow up examination of 1 and 2 years post operatively (Fig 6, 7). The surgical site appeared uneventful with a satisfactory healing and there was no evidence of recurrence of lesion.

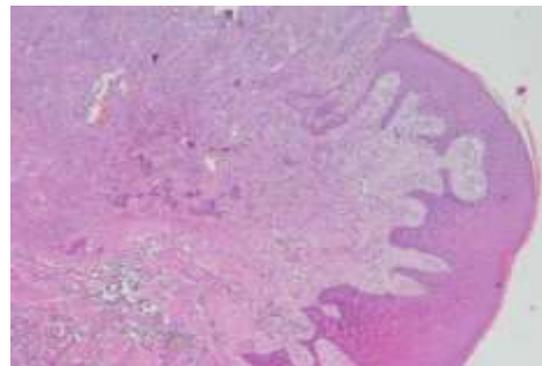


Figure 5: Histological picture of the lesion



Figure 6: One year follow up



Figure 7: Two years follow up

DISCUSSION

Gingiva is one of the anatomical regions in the oral cavity with the broadest array of lesion stirring from inflammatory to neoplastic. POF is one such lesion reactive lesion exclusively seen on gingiva, with prevalence rate of 9.6%⁴. POF is a slow

growing nodular solitary mass either pedunculated or sessile⁷. It can occur at any age, but most frequently seen at second and third decade of life. The etiopathogenesis of POF is uncertain, though an origin from the cells of periodontal ligament has been advocated. The reason for considering for periodontal ligament origin include excessive occurrence of POF in the gingival interdental papilla, due to the proximity of the gingiva to periodontal ligament, the presence of oxalan fibres within the mineralized matrix of some lesion, and the fibrocellular response in periodontal ligament⁸. Sub gingival plaques, calculus, dental prosthesis, poor quality of restorations, pathogenic micro flora are the triggering factors for the POF. In vast majority of cases, there is no apparent underlying bone involvement visible on the roentgenogram, but in some cases superficial of bone can be distinguished⁹.

POF has to be differentiated from other inflammatory gingival hyperplasia. A confirmatory diagnosis of POF is made by histopathology evaluation of biopsy specimen. Histologically, a typical ulcerated POF can exhibit three zones:

- i) The superficial ulcerated zone is covered with fibrinous exudates and enmeshed with polymorphonuclear neutrophils along with the presence of debris.
- ii) Below the surface epithelium composed almost exclusively the proliferating fibroblasts with diffuse infiltration of chronic inflammatory cells mostly lymphocytes and plasma cells.
- iii) The last zone is composed of collagenized connective tissue with less vascularity and high cellularity; osteogenesis consisting of osteoid and bone formation is a classic feature³.

The reported gingival overgrowth has been evidently diagnosed as POF after histopathological examination. Clinical picture of less vascular growth rules out the possibility of pyogenic granuloma. Histopathology, showed no presence of giant cells in connective tissue stroma, thus ruling out the possibility of peripheral giant cell granuloma¹⁰.

Treatment requires a through oral prophylaxis with a proper surgical intervention which ensures a complete excision of the lesion by scalpel, laser or electrosurgery. If there is a remnant of the base of the pathologic tissue, it can lead to the recurrence of the lesion. The recurrence rate of POF is known to be 8.9% - 20%¹¹. Therefore prefer treatment is the surgical excision including the involved periodontal ligament and periosteum¹².

The lesion was successfully treated and follow up was done at 3 months interval 1 and 2 years follow up. There was no evidence of recurrence.

CONCLUSION

POF is a pathological entity, with a varying clinical and pathological presentation but histogenesis is yet delineated. Significantly POF have common characteristics factors among the various focal reactive overgrowths of gingiva. Any reactive lesion requires a formulation of differential diagnosis to facilitate a precise assessment and complete management of the lesion.

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