

Case Report

Peripheral Ossifying Fibroma: A Case Report

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Abstract:

Peripheral ossifying fibroma (POF) is a gingival growth which is commonly seen in the maxillary anterior region. Main cause of its occurrence is due to low-grade irritations. This article presents a case of Peripheral Ossifying Fibroma in a 25-year-old female patient who reported with a slow-growing gingival growth. The clinical presentation, radiological, histological features and etiopathogenesis are discussed briefly.

Key words: Peripheral ossifying fibroma, Gingiva, pyogenic granuloma

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Introduction

Gingival growths are one of the most frequently encountered lesions in the oral cavity. Most of these lesions, such as irritational fibroma, pyogenic granuloma, peripheral ossifying fibroma and peripheral giant cell granuloma, are innocuous and rarely present with aggressive features. In the majority of cases, these lesions are the result of trauma or chronic irritation. One of the infrequently occurring gingival lesions is peripheral ossifying fibroma (POF). It is a focal, reactive, non-neoplastic tumor-like growth of the soft tissue that often arises from the interdental papilla.¹ With more predilection for females, and location in anterior maxilla.² The majority of lesions occur during a second decade of life, with a declining incidence in later years.³ It is usually less than 1.5 cm in diameter and the

diagnosis can be made by clinical inspection and biopsy.⁴ Histologically, non-capsulated mass of cellular fibrous connective tissue with randomly distributed calcifications and/or mature bone is seen.³ After the elimination of local etiological factors, surgical excision is the preferred treatment.⁵

Case Report

A 25 years old female patient reported to the Division of Periodontology, Department of Dental Surgery, AFMC Pune with the chief complaint of a painless gingival growth in relation to her upper right front teeth. The lesion started as a small nodule approximately 1 year ago. Four months prior to patient's visit, she had tried to remove the mass manually and managed to remove a portion of it. According to the patient, there was no bleeding or pain on removal of the

mass by herself. The patient did not give any history of trauma, injury, or food impaction and there was no significant medical history. An intraoral examination revealed well-demarcated, non-tender, firm, focal, pedunculated nodular growth arising from the interdental papilla of the maxillary central incisors and covering the crown upto middle third. The oval-shaped mass was 1.5 cm x 2 cm in size, with a reddish pink color, smooth surface, and distinct edges (Figure 1). An intraoral periapical radiograph of the maxillary central incisors showed faint radiolucent lesion superimposed on the underlying normal bone architecture (Figure 2).



Figure 1: Preoperative radiograph



Figure 2: Intraoral periapical radiograph

The differential diagnoses included pyogenic granuloma, peripheral odontogenic fibroma, fibroma, and peripheral giant cell granuloma. A provisional diagnosis of pyogenic granuloma was made for the gingival growth. The irritating factors (plaque & calculus) were eliminated by thorough scaling and root planing. Under local anaesthesia, complete surgical excision of the gingival growth was performed (Figure 3).



Figure 3: Excision of localized growth

Excision included removal of the base of the lesion with reflection of flap to ensure the complete removal of the lesion and to prevent recurrence (Figure 4).



Figure 4: Full thickness flap reflection

Since there was a history of recurrence, thorough gingival curettage was also done. The excised tissue was sent for histopathological examination, and the area was sutured with 3-0 silk, using interrupted suture (Figure 5).



Figure 5: Interrupted suture

Histologically, the specimen showed parakeratinized stratified squamous epithelium and underlying fibrous connective tissue with intense infiltration by chronic inflammatory cells. Fibro-cellular connective tissue revealed multiple areas of dystrophic calcification and high degree of cellularity. (Figure 6)



Figure 6: After 1 week follow up

Based on the histopathological feature diagnosed was made as POF. The patient was recalled after 1 week for suture removal and showed uneventful healing (Figure 7). At 6 months recall, recurrence of the growth was not observed. (Figure 8)

Discussion

Peripheral ossifying fibroma (POF) shows a contiguous relationship with the periodontal ligament (PDL), occurring solely on the soft tissues overlying the alveolar process. Clinically, presents as an exophytic, smooth surfaced, pink or red nodular mass that is usually sessile; and less frequently seen with

a pedicle.⁶ Approximately 50% cases occur in females with predilection

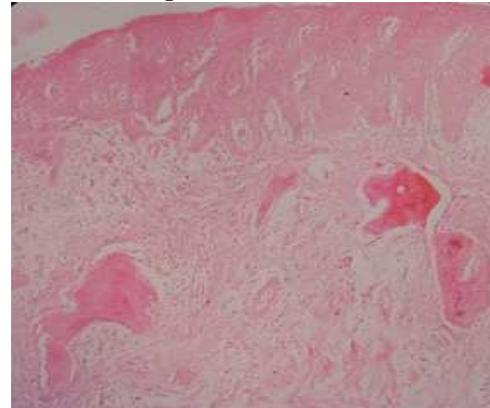


Figure 7: Histological photomicrograph showing dense collagen bundles and bony spicules.



Figure 8: Post-op intra-oral photograph

for maxilla incisor-cuspid region.⁷ Radiographically, in few cases, there can be superficial erosion of bone.⁸ In the present case also, faint radiographic findings were found which indicated that this could be an early stage lesion.

Etiology of POF is unclear, inflammatory hyperplasia originating in the superficial PDL is considered to be a causative factor.⁴ Orkin and Amaldas⁹ suggested that excessive proliferation of mature fibrous connective tissue is a response to gingival injury or gingival irritations, subgingival calculus or a foreign body in the gingival sulcus, dental appliances and restorations. In addition,

factors such as a high female predilection and a peak occurrence in the second decade of life suggest hormonal influences.⁷ Chronic irritation of the periosteum and periodontal ligament causes metaplasia of the connective tissue, which initiates formation of bone or dystrophic calcification.⁹ In the present case, plaque and calculus along with hormonal influences due to the patient's age and sex might have been the cause for the gingival growth.

The definitive diagnosis of POF is made histologically when there is exceedingly cellular mass of connective tissue consisting of large numbers of plump, proliferating fibroblasts intermingled throughout with delicate fibrillar stroma with areas of calcification is seen. Buchner et al³ reported that the mineralized tissues observed in POF can be of three basic types: 1) woven or lamellar bone surrounded by osteoid; 2) cementum-like material appearing as spherical bodies; 3) dystrophic calcifications. The preferred choice of treatment for POF is surgical excision and submission for histopathological examination.⁸ Neville et al¹⁰ suggested that the lesion be removed down to the periosteum and the adjacent teeth be scaled to remove any remaining irritants as recurrence rate for POF is high.

Conclusion

In conclusion, a slowly growing soft-tissue mass with speckled calcifications in the anterior oral cavity might be a reactive gingival lesion such as POF. Histopathological examination is essential for accurate diagnosis. Once diagnosed, it should be treated by total excision to prevent recurrence and simultaneous management of gingival defect if present.

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Conflict of interest: None declared