



PERIPHERAL OSSIFYING FIBROMA: A CASE REPORT

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Abstract: Peripheral ossifying fibroma is a benign neoplastic inflammatory hyperplasia that is a reactive proliferative lesion of periodontal tissues that arises mostly from interdental papillae of gingiva in response to chronic mechanical irritation. This case report was focused on a case of peripheral ossifying fibroma involving interdental papilla between 21 & 22 on the labial aspect in a 12 year old female patient.

Key Words: Gingiva, Peripheral ossifying fibroma, Reactive proliferative lesion.

INTRODUCTION

Peripheral ossifying fibroma is a relatively common reactive and non-neoplastic gingival lesion, believed to arise from the cells of the gingival corium, periosteum or periodontal ligament.¹ POF was first introduced by the Shepherd in 1844 as alveolar exostosis. The term peripheral ossifying fibroma was later coined in 1972 by Eversol and Robin. In 1982, Gardner used the term peripheral ossifying fibroma & this term is still used in literature. Peripheral ossifying fibroma has been referred to by a variety of synonyms such as peripheral odontogenic fibroma, peripheral cementifying fibroma, calcifying or ossifying fibroid epulis, peripheral fibroma with calcification. Ossifying fibroma which is generally two types: Central and peripheral. Ossifying fibroma that develop from PDL or endosteum next to root apex and spread out from the medullary cavity of bone are classified as Central type of ossifying fibroma, whereas those that only occur on the soft tissues covering the alveolar process and have a contiguous relationship with the PDL are classified as peripheral type.²

The present article highlights a case report related to peripheral ossifying fibroma in a 12-year-old female patient reported to the Department of Oral Medicine & Radiology, Lenora Institute of Dental Sciences, Rajanagaram. For this clinical observation, histology validated the diagnosis of peripheral ossifying fibroma, with a focus on clinical and histological aspects.

CASE REPORT

A 12-year-old female patient reported to the Department of Oral Medicine & Radiology with a chief complaint of growth involving the left upper front gum region for 3 months. On eliciting the history, growth started as a small lesion and gradually increased in size with no history of bleeding, pain, or other associated symptoms except discomfort while chewing and speaking. Past medical and family history were non-contributory.

On general examination, the patient was moderately built, and nourished with a well-coordinated gait, erect posture, and normal vital parameters. On intraoral examination, there was a solitary growth seen on the interdental papilla between 21 & 22 on the labial aspect measuring about 0.5 x 0.5cm in size.(Figure 1), roughly oval in shape, reddish pink in color with no surface ulcerations. On palpation, it was non-tender, soft to firm in consistency, non-compressible, non-reducible, and non-pulsatile with chunks of calculus detected on passing the probe interdentally between 11,21,22. Based on the history and findings, a provisional diagnosis of Peripheral ossifying fibroma irt interdental papilla of 21 & 22 was given. Differential diagnoses of pyogenic granuloma, irritational fibroma, peripheral giant cell granuloma, and hormonal-induced gingival enlargement were considered.

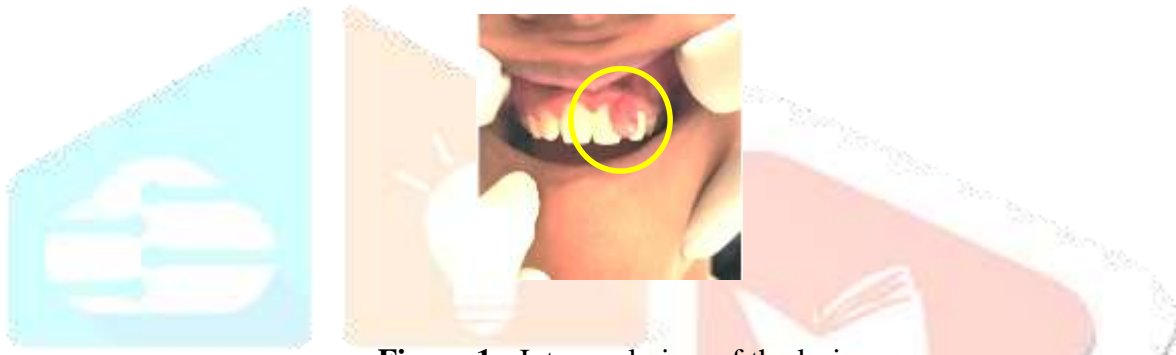


Figure 1 : Intra oral view of the lesion

Advised investigations includes IOPAR irt 21& 22, routine blood investigations & excisional biopsy. IOPAR revealed normal interdental bone irt 21 & 22. All the hematological parameters were within normal range with good glycemic control. Histopathology report for the sample obtained via excisional biopsy under local anesthesia. (Figure 3) revealed para keratinized stratified squamous epithelium with a break in its continuity and underlying connective tissue which is fibro-cellular in nature with numerous proliferating spindle-shaped fibroblasts and dense inflammatory cell infiltrate. Areas of dystrophic calcifications and basophilic cementum-like spherules are seen showing moderate vascularity with numerous proliferating blood vessels and extravasated RBCs. (Figure 4)



Figure 2: IOPAR irt 21,22



Figure 3 : Excised tissue

By correlating the clinical & radiological features with histopathological features a final diagnosis of peripheral ossifying fibroma involving the gingiva of left maxillary anterior region was arrived at.

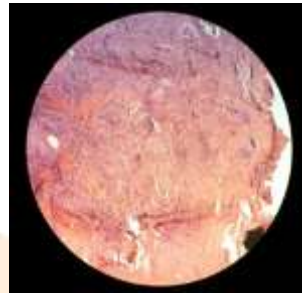


Figure 4: Photomicrograph revealing the histopathology of the lesion



Figure 5: Follow-up

Patient recalled after 4 months for post-treatment evaluation to ensure no recurrence or any other complications (Figure :5)

DISCUSSION

Ossifying fibroma is a benign neoplasm that primarily affects the jaw bone, that occurs either in relation to soft tissue or within the bone. POF is a benign connective tissue lesion of reactive origin. In turn, central ossifying fibroma is a benign bone tumor. The multitude of terms for these conditions indicates how ambiguous the classification is, which causes a lot of controversy³. Usually, POF accounts for 4 to 10 % of gingival lesions & makes up 1-2 % of all lesions in the oral cavity can but is more common in the second & third decades of life with more female predilection & more commonly seen in the incisor-canine region followed by premolar & molar area in both maxilla & mandible.

Clinically, POFs appear as solitary, firm, smooth-surfaced or ulcerated, pedunculated or sessile, pink or red, gingival mass, often arising from interdental papilla. They are usually < 2cm in size. Some are often soft, quite vascular, and bleed readily. More mature lesions are firm, fibrous & pale pink in colour.⁴ Some suggest that hormonal influences may also play a role given the higher incidence of peripheral ossifying fibroma among females. Exposure of inflamed gingiva to progesterone & estrogen from saliva and bloodstream is thought to be one of the contributing factors.⁵

Radiologic findings may range from no change to destructive changes depending on the duration of the lesion. In certain large & long-standing cases, superficial erosion of bone and the presence of some radiopaque foci within the tumor mass which occur due to calcifications within the lesion can be seen.⁶

Peripheral ossifying fibroma exhibits either an intact or more frequently, an ulcerated layer of stratified squamous epithelium histologically. The lesional tissue shows fibrous proliferation and an associated increased cellularity. The fibroblasts are plump shaped with variable amounts of calcification in connective tissue stroma. The calcified material may be osteoid, cementoid or dystrophic calcification. Bone consists of mature, lamellar or woven osteoid, cementum-like material. The dystrophic calcifications are seen in the form of tiny or large globules, irregular masses or multiple masses of basophilic mineralization matrix. Calcification, which is the most expressive histopathological feature, will differentiate POF from other fibrous proliferation.⁷

Treatment includes surgical excision. Excision to the depth of the periosteum or the causative agent, with 2 mm margins around the clinical periphery is recommended. As part of the excision, any foreign body, calculus, or faulty restoration should be removed.⁸

Recurrence rate is usually high in the case of Peripheral ossifying fibroma (7-20%) after conservative excision^{9,10}. A thorough curettage of underlying tissue, after surgical excision reduces the rate of recurrence to a considerable extent. The reason for recurrence was budding of basal cell layer of surface epithelium. Although POF is a benign, reactive lesion the recurrence rate is fairly high therefore regular follow up is necessary.(Table 1).

Name of the lesion	Etiology	Site	Surface	Colour	Radiographic features	Recurrence
Peripheral ossifying fibroma	Plaque, Tartar, Irritational fillings, Poorly adapted prosthetics	Anterior maxilla & mandible	Lobulated & ulcerated	Pink to reddish pink	Superficial erosion of underlying bone. Radioopaque foci are seen	7 – 20%
Pyogenic granuloma	Plaque, Tartar, pregnancy	Anterior maxilla (Gingiva)	Lobulated & warty	Bright red	Not usually seen	16%
Peripheral giant cell granuloma	Chronic irritation	Anterior mandible	Nodular & Ulcerated	Purplish red	Cupping	9%
Epulis granulomatousum	Tooth fragments in a recently extracted tooth socket	Posterior mandible	Smooth, lobulated or bosselated	hemorrhagic	Presence of bony spicules or root pieces.	11-20%

Table 1: Comparison of characteristics of some reactive hyperplastic lesions ^{4, 9}

CONCLUSION

Peripheral ossifying fibroma is a common, benign tumor that develops in the oral cavity, typically in the gingiva. While it is non-neoplastic, POF can cause discomfort, swelling & bleeding. Early detection of growth based on clinical and pathological examination & surgical excision along with curettage are usually effective in treating POF, with a low risk of recurrence. With proper management & meticulous oral hygiene patients with POF can experience a full recovery and restored oral health.

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