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Bone within the Gingiva: An Unusual Case Report of Peripheral Ossifying Fibroma

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ABSTRACT

Peripheral ossifying fibroma is a relatively rare gingival growth that is thought to be reactive in nature and occurs as a result of irritation or trauma. They usually occur in young adults with a predominantly female population and are solitary in nature. We report a case of peripheral ossifying fibroma in a 52-year-old woman.

Key words: Gingiva, Multicentric, Periosteum, Peripheral ossifying fibroma, Recurrence

INTRODUCTION

Gingival hypertrophy, especially those belonging to the reactive group, are frequently encountered in the oral cavity in daily clinical practice. Reactive lesions, such as pyogenic granulomas, peripheral giant cell granulomas, irritative/traumatic fibromas, and peripheral ossifying fibromas, are benign in nature and exhibit aggressive clinical features very rarely[1]. Among these lesions, peripheral ossifying fibroma [POF] is a rare focal, reactive, non-neoplastic tumor-like growth of the soft tissue that primarily arises from the interdental papillae[2]. It can be sessile or pedunculated, the color varies from pale pink to cherry red, and the smooth surface accounts for 9% of all gingival growths. Most lesions are less than 2 cm, but larger lesions may occur. In most cases, radiographs do not show obvious underlying bony involvement. However, in rare cases, superficial bone erosion may occur. The recurrence rate of POF is thought to be high in benign reactive growths[3]. This article focuses on case report regarding peripheral ossifying fibroma in a 52-year-old female patient, its diagnosis, satisfactory clinical management, and review of the latest literature.

CASE REPORT

A 52-year-old female patient presented with swollen gums in the upper front teeth area and was referred to the outpatient department of Periodontology at GRIDS. The patient first noticed the swelling about a year ago and observed that it has since increased in size. The patient appeared generally healthy with no significant past medical history. Upon intraoral examination, an oval-shaped gingival mass was found on the buccal side of the maxillary incisors. The swelling was well-defined, attached to the underlying tissue, red in appearance, firm to touch, and measured approximately 2 centimeters in both length and width. The lesion was not painful and showed no signs of ulceration.

Figure 1: Preoperative Photograph of lesion

Figure 2 : Preoperative measurement of lesion

DIFFERENTIAL DIAGNOSIS

The differential diagnosis included fibrous hyperplasia, pyogenic granuloma, peripheral giant cell granuloma and peripheral odontogenic fibroma.

TREATMENT :

With local anesthesia, the abnormal tissue was fully removed down to the bone to eliminate the original cells, and the nearby teeth were also treated to prevent any irritation that could lead to the problem coming back. A periodontal dressing was placed over the area where the tissue was taken out. Samples from the removed tissue were sent for detailed microscopic examination.

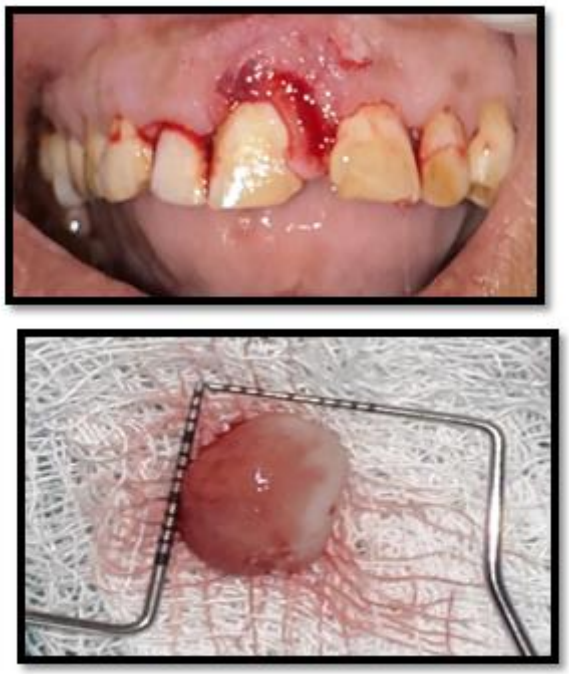

Figure 3: Removal of lesion

HISTOPATHOLOGICAL ANALYSIS

Under histopathological evaluation, low magnification revealed proliferating epithelium overlying the fibro cellular connective tissue stroma with mineralization. Higher magnification showed a para-keratinized stratified squamous type epithelium with an area of ulceration. Trabeculae of bone and globules of calcifications suggesting mineralization were also seen within the connective tissue.

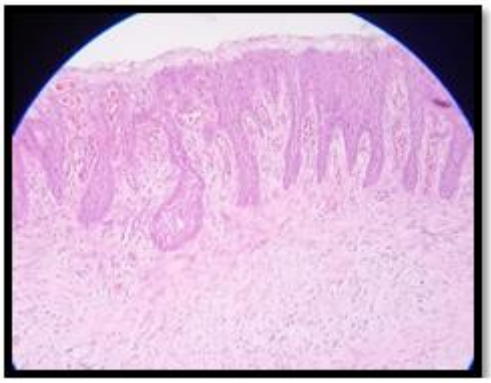

Figure 4: Histopathological view

OUTCOME AND FOLLOW UP

The patient was followed up for a period of 6 months postoperatively. No signs of recurrence of the lesion were observed.

Figure 5 : Follow up after 1 month

DISCUSSION

Intraoral ossifying fibroma has been mentioned in medical papers since the late 1940s. POF is a separate condition and isn't a type of pyogenic granuloma, PGCG, or inflammatory fibroma. These conditions have similar clinical and histological features, but they also have different histological features. It has been suggested that the way these lesions respond to stimuli might be similar[4-5]. **Eversole and Rovin**[6] pointed out that POF, pyogenic granuloma, and PGCG all tend to affect similar groups of people and occur in similar areas. POF is a localized, reactive, non-cancerous growth in soft tissues, often found near the gum between teeth. It can look like a small, hanging bump or have a wide base. These growths may appear red or pink, sometimes with sores, and their surface can be smooth or uneven. While most are less than 2 cm in size, some can grow as large as 9 cm. There have been reports of teeth moving and bone damage linked to POF, but these cases are rare[7-9].

By most reports, the majority of the lesions occur in the second decade, with declining incidence in later years[10]. There are 2 reported cases of POF present at birth, presenting clinically as congenital epuli.[11-12] In a retrospective study of 431 cases in the Chinese population by **Zhang et al.,**[13] the mean age of incidence of POF was found to be 44 years, which is contradictory to previously published literature. POF appears to be more common among white people than black and slightly less common among those of Hispanic origin.

The differential diagnosis of this disease includes traumatic fibroma, PGCG, and pyogenic granuloma. Pyogenic granulomas are the most common oral lesions known and affect the gingiva. Clinically, oral pyogenic granuloma is a smooth or lobulated exophytic lesion that appears as small red erythematous papules with a usually hemorrhagic pedunculated or sometimes sessile base.

Histologically, POF appears to be an unencapsulated mass of cellular fibroblastic connective tissue of mesenchymal origin lined with stratified squamous epithelium, in 23–66% of each case. It's ulcerated. POF contains regions[14]. Fibrous connective tissue, endothelial proliferation and calcification. Endothelial proliferation can be severe in the ulcerated area and can be misleading in clinical diagnosis, as the lesion may be a pyogenic granuloma. The calcified

component of POF is variable and occurs in approximately 23–75% of cases according to published reports. Mineralization differs between cementitious materials, bone (woven and lamellar bone), and dystrophic mineralization. The treatment of choice for POF is local excision with the peripheral and deep margins of the including both the periodontal ligament and the affected periosteal component. In addition, removal of local etiological agents such as bacterial plaque and stones is necessary[15].Teeth associated with POF generally become immobile, although there have been reports of tooth movement as a result of bone loss. Extraction of the adjacent teeth is usually not considered necessary[16]. In reactive lesions, it is thought that the recurrence rate of POF is high. Recurrence rates have been reported to be between 8.9% and 20%. This is probably due to incomplete initial removal, repeated trauma, or persistence of local irritants. The average interval between first recurrences is 12 months[17].

CONCLUSION

Peripheral Ossifying Fibroma is a relatively uncommon reactive gingival lesion that often presents as a localized overgrowth arising from the interdental papilla. Although its clinical appearance may resemble other reactive lesions of the gingiva, definitive diagnosis requires careful correlation of clinical findings with histopathological examination. Early recognition and complete surgical excision are essential to prevent recurrence and to restore both function and esthetics. The present case highlights the importance of comprehensive evaluation and timely management of gingival enlargements in routine periodontal practice.

Furthermore, elimination of local irritational factors along with meticulous oral hygiene maintenance plays a significant role in successful treatment outcomes. Regular postoperative follow-up is necessary because of the lesion's known tendency for recurrence. This case emphasizes the need for clinicians to consider Peripheral Ossifying Fibroma in the differential diagnosis of solitary gingival growths and reinforces the value of histopathological confirmation for accurate diagnosis and appropriate treatment planning.

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