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Peripheral Ossifying Fibroma- A Case Report

KEYWORDS: Fibroma; gingiva; gingival overgrowth; peripheral ossifying fibroma

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ABSTRACT *Localized gingival enlargements are common and most of the time represents reactive proliferative lesions rather than neoplasms. Peripheral ossifying fibroma (POF) is a localised gingival enlargement composed of a cellular fibroblastic connective tissue stroma and is accompanied with the formation of randomly dispersed foci, consisting of either bone, cementum like material and dystrophic calcification. POF predominantly affects women and is usually located in the anterior maxilla. The conclusive diagnosis is by histological examination, which reveals the presence of cellular connective tissue with focal calcifications. Treatment is performed by eliminating the primary etiological factors followed by surgical excision and histological evaluation. The recurrence rate is about 20%. This article reports a case of a 49 year old patient who reported with a chief complaint of a painless gingival growth which was surgically excised and on histological evaluation , the lesion was diagnosed as POF.*

INTRODUCTION

Localized gingival enlargements are common and most of the time represents reactive proliferative lesions rather than neoplasms. There are different types of focal overgrowths which may occur on the gingiva and peripheral ossifying fibroma (POF) is one such.

The term peripheral ossifying fibroma was coined by Gardner (1982) for a lesion that is reactive in nature and does denote an extraosseous counterpart of a central ossifying fibroma of the maxilla and mandible. Farquhar, Maclellan, Dyment and Anderson (2008) have described peripheral ossifying fibroma as a focal, reactive, tumor-like growth of the soft tissue, which is non-neoplastic in nature. Kenney, Kaugars and Abbey (1989) reported that POF predominantly affects women and that it is most commonly seen in anterior maxillary region, often arising from the interdental papilla. In majority of the cases, the radiograph will not show any underlying bone involvement but however, in rare instances a superficial erosion of bone can be seen.

Neville, Damm, Allen and Bouquot (2004) stated that etiopathogenesis for POF is the inflammatory hyperplasia of the periosteum cells or the periodontal ligament cells. It originates in reaction to local irritation due to trauma, plaque/ micro-organisms, calculus, restorations and various prosthetic and orthodontic appliances. The conclusive diagnosis is established by histological examination. Treatment is performed by eliminating the primary etiological factors followed by surgical excision and histological evaluation.

CASE REPORT

A 49 year old female patient reported to the Dept of Periodontics with the chief complaint of a painless gingival growth in the maxillary anterior region since 3-4 yrs. Initially the swelling was small and had been increasing in size since the last one year to the present size. The medical history did not reveal anything which was significant. On extraoral examination there was bilateral facial symmetry and the regional lymph nodes were non palpable.

Intraoral examination, revealed a well demarcated sessile reddish pink, nodular growth measuring 1.5cm x 2cm in relation to the permanent maxillary left central incisor (Fig 1). The gingival overgrowth was non tender and firm in consistency. Periodontal examination did not reveal any significant findings.

Figure 1: Pre-Operative photo showing gingival overgrowth- Anterior view

Intraoral periapical (IOPA) radiograph was obtained which did not show any abnormal underlying bony changes (Fig 2).

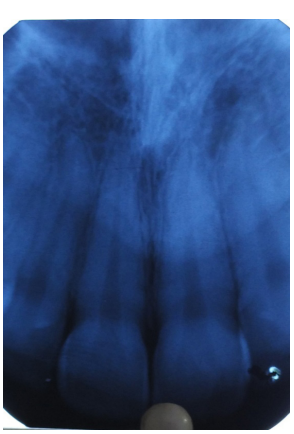

Figure 2: Intraoral periapical radiograph (IOPA)

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Clinically a provisional diagnosis of pyogenic granuloma was given for the growth, with a differential diagnosis of peripheral odontogenic fibroma, fibroma and peripheral giant cell granuloma.

It was decided to treat the condition by surgical excision followed by histopathological evaluation. Routine blood investigations were done, findings of which were normal.

At first oral prophylaxis was performed and the patient was given oral hygiene instructions. One week post scaling, the lesion was surgically excised under local anesthesia. A through curettage of the underlying tissues was also done. The excisional biopsy was submitted for histopathological examination (Fig 3).

Figure 3: Excisional Biopsy

The patient returned one week later for a follow-up appointment and the surgical site was healing well (Fig 4).

Figure 4: One week Post-Operative View

Histopathological Examination:
The Hematoxylin & Eosin stained section shows hyperplastic para-keratinized stratified squamous epithelium with elongated and confluent rete-ridges. The connective tissue shows fibro cellular stroma containing collagen fiber bundles with plump fibroblasts, areas of ossification, calcification and cementum like droplets. It also shows presence of blood vessels like capillaries and venules. Inflammatory cells chiefly plasma cells and lymphocytes were also seen with adipose tissue and areas of haemorrhage. (Fig 5)

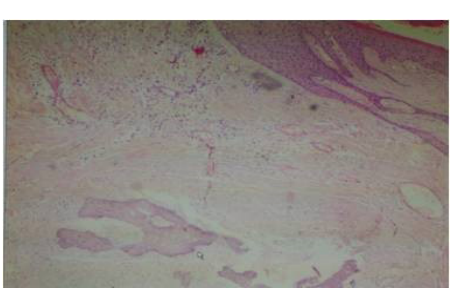

Figure 5: Photomicrograph of H & E stained Histological section showing hyperplastic para-keratinized stratified squamous epithelium and Connective tissue showing numerous foci of ossification and cementum like calcified masses

DISCUSSION:
Since the late 1940s, there is no dearth of literature describing intraoral ossifying fibromas. Eversole and Rovin (1972) reported that there are two types of ossifying fibromas: the central ossifying fibroma and the peripheral ossifying fibroma. The central type causes the expansion of the medullary cavity and supposedly arises from the endosteum or the periodontal ligament adjacent to the root apex. The peripheral type solely occurs on the soft tissues of the tooth-bearing areas of the jaws.

POF has many synonyms, some of them being peripheral cementifying fibroma, calcifying or ossifying fibroid epulis, peripheral fibroma with calcification, cemento-ossifying fibroma, calcifying fibroblastic granuloma, peripheral fibroma with cementogenesis. A POF may occur at any age but exhibits predominance in the second and third decades (Neville et al., 2004). It may be sessile or pedunculated. Büchner and Hansen (1987) in their study of histomorphologic spectrum of POF reported that the surface of the POF exhibits either an intact or ulcerated stratified squamous epithelium. The bulk of the lesion is composed of a cellular mass of connective tissue comprising of a large numbers of plump proliferating fibroblasts and delicate fibrillar stroma. Vascularity is not a feature of the lesions as seen in the pyogenic granuloma. The mineralized component of POF varies from 23% to 75 % as reported by Farquhar et al. (2008). Calcification may be in the form of single or multiple trabeculae of bone or osteoid. Less commonly globules of calcified material resembling acellular cementum or dystrophic calcifications are seen. Occasionally areas containing multinucleated giant cells may be seen.

Cuisia and Brannon (2001) clinically evaluated 134 cases of POF and reported that 60% of the POF lesions occur in the maxilla and majority of them occur anterior to the molars which are consistent with the presented case. The case presented with significant amounts of plaque and calculus which may be considered to be irritants triggering the lesion. The case was treated by surgical intervention. It is recommended that the lesion be excised including the involved periosteum and the periodontal ligament (Kumar, Ram, Jorgensen, Shuler and Sedghizadeh, 2006). Bodner and Dayan (1987) reorted the recurrence rate of POF as 7-20%. Recurrence probably occurs due to incomplete removal of lesion, repeated injury or persistence of local irritants (Walters, Will, Hatfield, Cacchillo and Raabe, 2001).

CONCLUSION:
The various gingival lesions are difficult to differentiate clinically. Hence for positive identification, a thorough examination of the lesion both radiographically and histologically is a must. POF should be treated by total excision, as well as complete removal of the irritant factors to prevent recurrence.

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