

Recurrence of Peripheral Ossifying Fibroma: A Case Report

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Abstract:

The peripheral ossifying fibroma (POF) is a reactive gingival overgrowth occurring frequently in the maxillary anterior region in teenagers and young adults. They are pink to red in colour, firm to quite hard in consistency depending on the amount of bone they contain. As they enlarge, they may become ulcerated. They are commonly associated with poor oral hygiene and early periodontal disease. In the majority of cases there is no marked underlying bone involvement visible on the radiograph. Here, we report a case of peripheral ossifying fibroma which had recurred after the surgical excision.

Key Words: Peripheral cementifying fibroma, Peripheral fibroma with calcification, Calcifying fibroblastic granuloma.

Introduction:

Peripheral ossifying fibroma is a common gingival growth usually arising from the interdental papilla. Trauma or local irritants such as dental plaque, calculus, micro-organisms, masticatory forces, ill-fitting dentures and poor quality restorations have been implicated in the etiology of peripheral ossifying fibroma (Kumar et al, 2006). Peripheral ossifying fibroma appears as a nodular mass, either pedunculated or sessile. The colour ranges from red to pink and the surface is frequently but not always ulcerated. It is more commonly seen in 1st and 2nd decades of life and has a female preponderance. There is a slight predilection for the maxillary arch and in the incisor cuspid region (Neville et al, 2002).

In majority of cases there is no underlying bone involvement visible on the radiograph. However, on rare occasions, there may be superficial erosion of bone. The lesions should be surgically excised and submitted for microscopic examination for confirmation of the diagnosis. The lesion may recur after excision and in fact repeated recurrences are not uncommon (Das & Azhar, 2009). In the series of Cundiff 16% of cases recurred, while in a series of 50 cases reported by Eversole & Rovin, the recurrence rate was 20% (Das & Azhar, 2009).

Here, we present a case of peripheral ossifying fibroma which had recurred after surgical excision in the mandibular right second premolar and first molar region.

Case Report:

A 17 year old female reported to the Department of Periodontics at Subharti Dental College, Meerut, with the chief complaint of gradually increasing gingival swelling in the right lower back tooth region. Patient had undergone surgical excision of gingival overgrowth 10 months back, but the growth had recurred.

Intra-oral examination revealed a swelling on the buccal gingiva in relation to the mandibular right second premolar and first molar region. The lesion was asymptomatic, sessile and firm in consistency. The overgrowth was dome shaped; overlying mucosa was reddish pink in colour. The growth was approximately 1.5cm×2cm in size. No ulceration was observed. The mass was not fixed to underlying bone (Fig. I).



Fig. I: Pre-operative photograph showing gingival swelling in relation to the right lower second premolar and first molar.

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Radiographic examination revealed widening of periodontal ligament space with thickening of lamina dura (Fig. II). Blood examination revealed normal

values. Clinically, the differential diagnosis included pyogenic granuloma, peripheral ossifying fibroma and peripheral giant cell granuloma.



Fig. II: Radiograph showing widening of periodontal ligament space

Treatment:

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. Excision also included removal of the base of the lesion with reflection of flap to ensure the complete removal of the lesion and to prevent further recurrence. Since there was a history of recurrence, thorough gingival curettage was also done. The excised mass was sent for histopathological examination. Patient was motivated and educated to maintain his oral hygiene. Patient was called after 15 days; healing was uneventful (Fig.IV). Oral hygiene instructions were reinforced; patient is still under follow-up.

Histopathological examination of the specimen revealed non-keratinized stratified squamous epithelium which was discontinuous and ulcerated in some areas. Underlying fibrous connective tissue showed intense infiltration by chronic inflammatory cells. Fibro-cellular connective tissue revealed spicules of bone formation and high degree of cellularity where the cells were found to be plump and active. All these findings were suggestive of peripheral ossifying fibroma (Fig. III).

Discussion:

Peripheral ossifying fibroma (POF) is a common gingival growth where is thought to be either reactive or neoplastic in nature. It has been suggested that the peripheral ossifying fibroma represents a

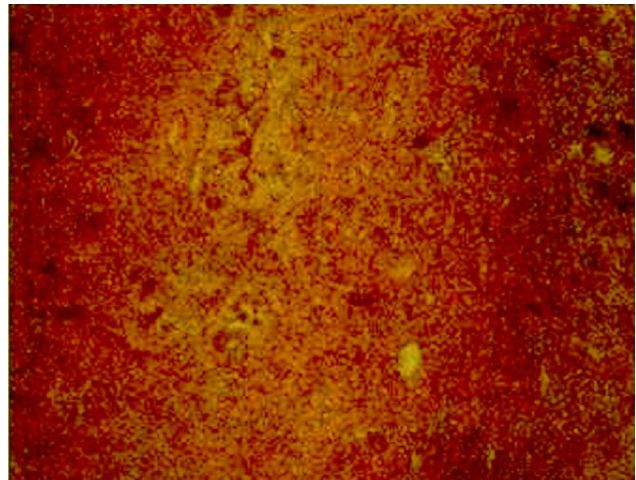


Fig. III: Photograph showing ulcerated stratified squamous epithelium with connective tissue containing inflammatory cells (H & E, 40X)



Fig. IV: Post-operative clinical picture showing normal gingiva in relation to the right lower second premolar and first molar.

separate clinical entity rather than a transitional form of pyogenic granuloma, peripheral giant cell granuloma or irritation fibroma (Bhaskar & Jacoway, 1986). Eversole & Rovin (1972) reported the similar sex and site predilection for pyogenic granuloma, peripheral giant cell granuloma and peripheral ossifying fibroma and a similar clinical and histological features. They opined that these lesions could simply be varied histological responses to irritation. Gardner (1982) stated that cellular connective tissue of POF is so characteristic that a histological diagnosis can be made with confidence, regardless of the presence or absence of calcification.

Peripheral ossifying fibromas contain areas of fibrous connective tissue, endothelial proliferation and

mineralization. Endothelial proliferation can be profuse in the areas of ulceration, which can be misleading in clinical diagnosis, as the lesion may appear to be pyogenic granuloma. The mineralized component of peripheral ossifying fibroma varies from 23% to 75% (Farquhar et al, 2008).

Though, the etiopathogenesis of peripheral ossifying fibroma is uncertain, an origin from the cells of the periodontal ligament has been suggested by Kumar et al, (2006). Their reasons for such hypothesis include occurrence of the peripheral ossifying fibroma in the gingiva (interdental papilla), the proximity of the gingiva to the periodontal ligament and the presence of oxytalan fibers within the mineralized matrix of some lesions. Excessive proliferation of mature fibrous connective tissue is a response to gingival injury, gingival irritation, subgingival calculus or foreign body in the gingival sulcus. Chronic irritation of the periosteal and periodontal membrane causes metaplasia of the connective tissue which initiates formation of bone or dystrophic calcification. It has, therefore, been suggested that lesion may be caused by fibrosis of granulation tissue (Kendrick & Waggoner, 1996). Hormonal influences may play a role, as it has higher incidence among females, increasing occurrence in the second decade and declining incidence after the third decade (Kenney et al, 1989). In only 2% of cases, neoplasm was considered in its differential diagnosis (Zhang et al, 2007).

The recurrence rate of peripheral ossifying fibroma has been considered high for reactive lesions. The rate of recurrence has been reported to vary from 8.9% to 20 % (Bhaskar & Jacoway, 1966; Kenney et al, 1989; Eversole & Rovin, 1972). It probably occurs due to incomplete initial removal, repeated injury or persistence of local irritants. The average time interval for the first recurrence is 12 months (Das & Azhar, 2009).

Conclusion:

Peripheral ossifying fibroma is a slowly progressing lesion, the growth of which is generally limited. Many cases will progress for long periods before patient seeks treatment because of the lack of symptoms associated with the lesion. Discussion of the differential diagnosis should be done tactfully to prevent unnecessary distress to the patient and family. Treatment consists of surgical excision and scaling of adjacent teeth. Without treatment they can increase in size and interfere with normal chewing and

swallowing. Hence, early diagnosis and prompt treatment is required.

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