Peripheral Ossifying Fibroma: A Case Series

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Abstract: Peripheral ossifying fibroma (POF) is a common solitary gingival overgrowth thought to arise from the gingival corium, periosteum, and periodontal ligament with a high recurrence rate it occurs 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. It is important to completely excise the lesion including the periosteum, the periodontal ligament and other irritant factors, to reduce the possibility of recurrence. Generally POF occurs in teenagers and adults, this article presents a case of peripheral ossifying fibroma at two different locations.

Key words: Peripheral Ossifying Fibroma, Calcification, Recurrence.

INTRODUCTION

The peripheral ossifying fibroma (POF) is a localized reactive enlargement of the gingiva that typically measures less than 1.5 cm at its greatest dimensions. Peripheral ossifying fibroma is a common gingival growth usually arising from the interdental papilla. The peak incidence is found most frequently in teenagers and young adults. 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. The POF may appear ulcerated and erythematous or exhibit a colour similar to the surrounding gingiva. It may be pedunculated or sessile and does not blanch upon palpation. There is a slight predilection for the maxillary arch and in the incisor cuspid region. Women are 2-4 times more likely to be affected than men. It has a high recurrence rate up to 20%.

CASE REPORT 1

A 60 year old female patient reported to the Department of Oral Medicine & Radiology with a complaint of swelling in upper right back region of teeth since 11 months. Her history of present illness revealed that patient noticed a small swelling in upper right back region of the teeth 6 months back, which gradually increased to attain the present size. It was not associated with any pain or discharge. Her past dental & medical history were non contributory. Intra oral examination revealed a solitary growth present in relation with right mandibular anterior region measuring approximately 1x1.5 cm in diameter, roughly oval in shape, pale pink in colour, overlying surface was smooth with well defined margins (Fig 1). On palpation the mass was firm in consistency, non tender.

On the basis of history and clinical features a provisional diagnosis of peripheral giant cell granuloma i.r.t.14,15 was given. Clinically, the differential diagnosis of peripheral ossifying fibroma and pyogenic granuloma were considered.

After that the patient was subjected for intra-oral periapical radiograph, complete haemogram, excisional biopsy of the lesion. Routine haematological investigation values were found to be within normal limits. Intraoral periapical radiographic view showed no significant findings. The excisional biopsy was performed under local anaesthesia. Excised specimen section revealed fibroblastic stroma with tissue masses of basophil aspect that correspond to osteoid or cementoid material accompanied by dystrophic calcifications (Fig 2). On considering patient history, clinical, and histological findings the final diagnosis of Peripheral ossifying fibroma w.r.t 21, 22 & 23 was given.

CASE REPORT 2

A 65 year old female patient reported to the Department of Oral Medicine & Radiology with a complaint of swelling in upper right back tooth region since 11 months. Her history of present illness revealed that patient noticed a small swelling in upper right back region of the teeth 11 months back, which gradually increased to attain the present size. It was not associated with any pain or discharge. Her past dental & medical history were non contributory. Intra oral examination revealed a solitary growth present in relation with right mandibular anterior region measuring approximately 1x2 cm in diameter, roughly oval in shape, pale pink in colour, overlying surface was smooth with well defined margins (Fig 3). On palpation the mass was firm in consistency, non tender.

On the basis of history and clinical features a provisional diagnosis of peripheral giant cell granuloma i.r.t.14,15 was given. Clinically, the differential diagnosis of peripheral ossifying fibroma and pyogenic granuloma were considered.

After that the patient was subjected for intra-oral periapical radiograph, complete haemogram, excisional biopsy of the lesion. Routine haematological investigation values were
found to be within normal limits. Intraoral periapical radiographic view showed no significant findings. The excisional biopsy was performed under local anaesthesia. Excised specimen section revealed fibroblastic stroma with varying cellularity. Within the fibrous stroma were mineralized tissue masses of basophil aspect that correspond to osteoid or cementoid material accompanied by dystrophic calcifications (Fig 2). On considering patient history, clinical, and histological findings the final diagnosis of peripheral ossifying fibroma was given.

DISCUSSION

Cemento-ossifying fibroma is defined by W.H.O as a demarcated, or rarely encapsulated, neoplasm consisting of fibrous tissue containing varying amount of mineralized material resembling bone or cementum.

POF has been given many synonyms, such as epulis, calcifying ?broblastic granuloma, peripheral cementifying ?roma(COF), peripheral ?roma with cementogenesis, peripheral cemento-ossifying ?roma, ossifying ?broepithelial polyp and peripheral ?roma with osteogenesis.4

First description of variant of ossifying fibroma, called COF was made by Menzel in 1872. But it was first reported in the jaw by Montgomery in 1927. WHO designates the cementifying fibroma as odontogenic and the ossifying fibroma as nonodontogenic in origin and suggests that they are separate entities but finally it was concluded that separation of the these conditions are arbitrary because the clinical, radiologic and prognostic features of the lesions are identical. Bhasker et al in 1984 described this lesion as peripheral ?roma with calcification and the term POF was coined by Eversol and Robin

Generally etiopathogenesis of POF is unknown but some authors have told that trauma or local irritants such as subgingival plaque and calculus, dental appliances, poor-quality dental restorations, microorganism, masticatory forces, food lodgement and iatrogenic factors all in?uence the development of the lesion. As in our case where local irritating factors were main etiology behind its occurrence.

They are classified under the fibro-osseous lesions of periodontal origin.

It is most commonly seen in second to third decade of life with female predilection of 5:1 ratio. Only 0.5% cases are reported in the older age group. As in our case POF occurred in a 60 year old female which makes it a rare entity. 60% of POFs occur in the maxilla and they are found more often in the anterior region, with 55- 60% presenting in the incisor-cusp region. Similar features have been reported in our case. Radiographically migration of teeth with interdental bone destruction has been reported in some cases but in a vast majority of cases there is no apparent underlying bone involvement visible. On rare occasions, there appears to be superficial erosion of bone. In the present case, underlying bone involvement was not observed.

Histopathologically, POF, can exhibit either an intact or ulcerated stratified squamous epithelium. The deeper fibroblastic component is highly cellular with central areas of calcification. The mineralized tissue may consist of bone, cementum like material, dystrophic calcification, or a combination of each. The present case report also demonstrated marked dystrophic calcification within the lesion.

Treatment of POF consists of elimination of etiological factors, scaling of adjacent teeth and total aggressive surgical excision along with involved periodontal ligament and periosteum to minimize the possibility of recurrence. Long term post-operative follow up is extremely important because of the high growth potential of incompletely removed lesion and a relatively high recurrence rate of approximately 20%. POF clinically resembles as pyogenic granuloma, peripheral giant cell granuloma or odontogenic tumors, so diagnostic and histopathological examination is essential for accurate diagnosis.

A slowly growing soft-tissue mass with speckled calcifications in the anterior oral cavity of young adults or children should raise a suspicion of a reactive gingival lesion such as POF. Histopathological examination is essential for accurate diagnosis. Once diagnosed, POF should be treated by total excision to prevent recurrence. The average time interval for first recurrence is 12 months.

REFERENCES


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LIST OF PHOTOGRAPHS

Fig: 1 Intra oral Image

Fig: 2 Histopathology Report

Fig: 3 Intra Oral Image