

Double Ossifying Fibro-Epithelial Polyp-A Rare Case Report

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Abstract: Gingival growths over the years are one of the most encountered lesions in oral cavity. These localized lesions including focal fibrous hyperplasia, pyogenic granuloma, peripheral giant cell granuloma and peripheral ossifying fibroma (POF). These lesions may arise as a result of irritants such as trauma, microorganisms, plaque, calculus, restorations and dental appliances. Out of them, one of the infrequently occurring gingival lesions is peripheral ossifying fibroma (POF). Various terminologies like peripheral odontogenic fibroma, peripheral cemento-ossifying fibroma, ossifying fibroepithelial polyp, and calcifying fibroblastic granuloma have been used to describe this lesion. It has great incidence in infants and in young adults, mainly in the age range of 10 to 19 years, mainly affecting females (two to four times more), suggesting some hormonal influences as well. In this article, we are reporting a case of 32 years old female in which two gingival growths, one in canine and one in premolar diagnosed as ossifying fibro-epithelial polyp or peripheral ossifying fibroma (POF), which is relatively rare.

Keywords: Epulis, Fibroma, Gingiva, Granuloma, Ossifying, Polyp.

I. Introduction

Peripheral Ossifying Fibroma(POF) is defined as a well demarcated and occasionally encapsulated lesion consisting of fibrous tissue containing variable amounts of mineralized material resembling bone (ossifying fibroma) (Waldrom, 1993)[1]. It is focal, reactive, non-neoplastic tumor-like growth of the soft tissue that often arises from the interdental papilla. The peripheral ossifying fibroma (POF) accounts for 3.1% of all oral tumors and for 9.6% of all gingival lesions [2]. It has great incidence in infants and in young adults, mainly in the age range of 10 to 19 years, mainly affecting females (two to four times more), suggesting some hormonal influences as well [3]. Clinically POF presents as a solitary, slow-growing, and well-demarcated nodular mass that exhibits a smooth surface, usually with normal-colored mucosa. It has a sessile or pedunculated base and is generally of a hard consistency [4]. Such lesions are generally smaller than 1.5 cm in diameter, although there have been reports of some large 4 cm lesions as well. About 60% of such lesions occur in the maxilla and more than 50% of all cases affect the region of the incisors and canines; more precisely in the interdental papilla[3]. Histologically, peripheral ossifying fibroma (POF) is a gingival nodule composed of a cellular fibroblastic connective tissue stroma associated with the formation of randomly dispersed foci of a mineralized product consisting of either bone (woven and lamellar), cementum like material and dystrophic calcifications. (Buchner & Hansen, 1987; Cuisia & Brannon, 2001) [5] [6].

The present report describes a case of peripheral ossifying fibroma in a 32 year old female patient

II. Case Report

A 32-year old female patient reported to the Department of Periodontics at Himachal Dental College, Sundernagar, H.P. with a chief complaint of a painless recurrent gingival growth in relation to upper right back teeth. The patient did not give any history of trauma, injury, or food impaction and there was no significant medical history. Patient had visited to dentist 2 years back and got excision of the gingival growth but she found that the growth reoccur again after 3 months of excision. An intraoral examination revealed generalized reddish pink gingiva with two solitary well-demarcated, non-tender, pedunculated nodular growth. The first swelling

arising from the distal interdental papilla of the maxillary right canine covering almost full crown of distal part of canine extend up to mesial of right first premolar covering. The second swelling covering the crown of the maxillary right second premolar. [Fig: 1]. The oval-shaped growths were 12×5 mm and 8×4 mm in size respectively, with a reddish pink color, smooth surface, and distinct edges [Fig:2]. Bleeding on probing was also noted. An intraoral periapical radiograph of the maxillary right canine, first and second premolar showed no interdental bone loss. [Fig: 3]. Clinically, differential diagnosis for the growth were pyogenic granuloma, peripheral odontogenic fibroma, fibroma, and peripheral giant cell granuloma was made. A provisional diagnosis of pyogenic granuloma was made. Oral hygiene instructions were given to the patient and oral prophylaxis was done. After 2 weeks, the growths were excised conservatively to prevent the development of an unsightly gingival defect, followed by root planing and curettage [Fig: 4]. Electrocauterization was done to block bleeding points [Fig: 5]. Two solitary gingival growths were obtained and the excised tissue was sent for histopathological examination [Fig: 6]. After completion of procedure, periodontal dressing was placed over the surgical area [Fig: 7]. Patient was recalled after one week for pack removal and further evaluation [Fig: 8].

Histologically, the specimen showed polypoid tissue fragment with surface squamous hyperplasia and underlying cellular fibroblastic connective tissue with focal bony trabeculae and dense chronic inflammation with ulceration. Histologically, the specimen was suggestive of Peripheral Ossifying Fibroma (Ossifying Fibro-epithelial Polyp). No evidence of malignancy was seen [Fig: 9].

III. Discussion

Intraoral ossifying fibroma have been described in literature since the late 1940s .Ossifying fibroma occurs mostly in craniofacial bones and is generally categorized into two types: central and peripheral [7]. The central type of ossifying fibroma arises from the endosteum or the periodontal ligament (PDL) adjacent to the root apex and expands from the medullary cavity of the bone. On the other hand, the peripheral type shows a contiguous relationship with the PDL, occurring solely on the soft tissues overlying the alveolar process [8]. Menzel first described Ossifying Fibroma in 1872, but Montgomery assigned a name to it only in 1927. The term Peripheral Ossifying fibroma was coined by Eversol and Robin [9].

In 1982, Gardner stated that peripheral ossifying fibroma for a lesion that is reactive in nature and is not the extraosseous counterpart of a central ossifying fibroma (COF) of the maxilla and mandible [10]. The use of a variety of terminologies for POF indicates a great amount of confusion regarding the lesion and its pathogenesis. Ossifying fibroid epulis, peripheral fibroma with calcification, peripheral cemento-ossifying fibroma, calcifying fibroma, peripheral cementifying fibroma, ossifying fibro-epithelial polyp, peripheral fibroma with osteogenesis, peripheral fibroma with cementogenesis, peripheral fibroma with calcification, calcifying or ossifying fibrous epulis and calcifying fibroblastic granuloma are all terms that have been used to refer to peripheral ossifying fibroma [11] Almost 60% of the lesions occur in the maxilla and mostly occur anterior to the molars in the second decade of life, The lesion affects females more often than males (5:1 respectively) [5]. In our case similar features were found. 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 [12]. Clinically, POF is sessile or pedunculated, usually ulcerated and erythematous or exhibits a color similar to that of surrounding gingiva [13]. Similar features were almost found in our case.

In this case, there was significant amount of plaque, calculus present which can be considered to be irritants triggering the lesion [10]. Radiographic features of POF may vary. Radio opaque foci of calcification have been observed in some cases scattered in central area of lesion. Underling bone involvement is usually not visible in radiographs. In rare instances superficial erosion of bone has been noted [14]. In our case, no radiographic finding has been found which indicates early stage of lesion. There is much uncertainty about the pathogenesis of this lesion. An origin in the periodontal ligament has been suggested. The reasons for considering the periodontal ligament as the origin of POF include the exclusive occurrence of POF 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 [15].

Histological, the POF consists of fibrocellular tissue with areas of more delicate fibrovascular tissue. Within the cellular areas, ossification is usually present, which vary both in quality and quantity. In the initial stage, when the lesion is composed of cellular fibroblastic tissue with minute granular foci of mineralization, it might be misdiagnosed as pyogenic granuloma. They suggested that the lesion usually starts with an ulcerated phase, showing highly cellular fibroblastic connective tissue containing areas of dystrophic calcification. As the ulcer heals, the cellular fibroblastic connective tissue matures and dystrophic calcification turns into bone [16]. Histological examination confirms the diagnosis of lesion.

Surgical excision is the preferred choice of treatment for POF [17]. To avoid recurrence, treatment requires proper surgical intervention that ensures deep excision of the lesion including periosteum. Thorough scaling and root planing of adjacent teeth and/or removal of other sources of irritants should be accomplished

[6]. Recurrence rates have been reported from 7% to 45% [5] which may reflect the technique and philosophy of surgical management.

To our present knowledge only single growth of POF is mentioned in the literature but in the present case, the adjoining gingival overgrowth has been seen making the case a rare occurrence

IV. Figures

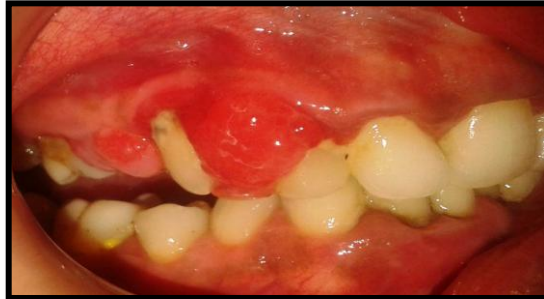


Fig: 1 Intraoral clinical picture showing two gingival growth wrt 12,13,14



Fig: 2 Measurement of gingival overgrowth using a periodontal probe



Fig: 3 Intraoral periapical radiograph showing no evidence of bone loss wrt concerned teeth



Fig: 4 Intraoral clinical picture showing excision of gingival overgrowth with bard parker handles no 3 and no. 15 blade.

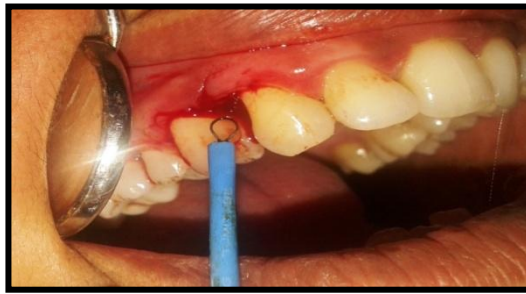


Fig: 5 Intraoral clinical picture showing blocking of bleeding point with electrocautery



Fig: 6 Immediate post-operative picture showing two excised gingival overgrowth



Fig: 7 Intraoral clinical picture after placement of periodontal dressing



Fig: 8 Post –operative clinical picture after one week

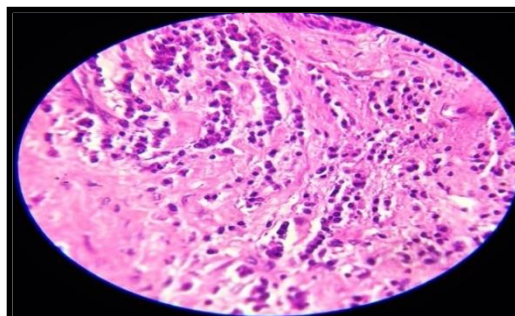


Fig: 9 Histological picture of peripheral ossifying fibroma

V. Conclusion

It is difficult clinically to differentiate between the various gingival lesions. For positive identification, the lesion must be examined thoroughly both radiographically and histologically. Also regardless of the surgical technique employed, its complete removal as well as complete elimination of the etiological factors must be achieved to prevent recurrence.

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