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PERIPHERAL OSSIFYING FIBROMA- A CASE REPORT

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ABSTRACT Peripheral ossifying fibroma (POF) is a reactive soft tissue growth that is usually seen on the interdental papilla and reactive in nature. It is considered a metaplastic process which involves the periodontal ligament in response to local irritants or trauma, such as biofilm, calculus, unsatisfactory restorations, and poorly adapted prostheses. Here presenting a case of 34-year-old female patient with diagnosis and management of peripheral-ossifying fibroma with 6 month follow up.

KEYWORDS :

INTRODUCTION-

Peripheral ossifying fibroma (POF) is a reactive soft tissue growth that is usually seen on the interdental papilla and reactive in nature. It may be usually smooth surfaced, broad based or pedunculated and varies from pale pink to cherry red in colour.[1]

POF is a benign mesenchymal lesion, predominant in the anterior maxillary gingiva of women between the second and third decades of life. Peripheral ossifying fibroma is considered a metaplastic process which involves the periodontal ligament in response to local irritants or trauma, such as biofilm, calculus, unsatisfactory restorations and poorly adapted prostheses. [2]

It is believed to comprise about 9% of all gingival growths and to arise from the gingival corium, periodontal membrane and periosteum. Reports claims that POF represents a maturation of a pre-existing pyogenic granuloma or a peripheral giant cell granuloma. [1]

POFs are usually less than 1.5 cm in diameter and diagnosis can be made by clinical findings and biopsy. POF shows a clinically benign behaviour with a confusion whether POF is a tumour or it represents proliferation of a reactive nature. [3]. There are many reasons for recurrence which includes failure to eliminate local irritants, incomplete removal of lesion, and difficulty in access during surgical manipulation due to being present usually at interdental areas.

To avoid recurrences deep excisions have been preferred. Synonyms of POF are peripheral cementifying fibroma, peripheral fibroma with calcification and calcifying or ossifying fibroid epulis. [4]

Case Report

A 34-year-old female patient reported to department of periodontology Career post graduate institute of dental science and hospital with the chief complaint of a soft tissue growth on the gingiva in the upper right front region of mouth since 3 months. It had progressed gradually to increase in size and attained the present size. Growth was associated with bleeding on brushing and mastication occasionally. The patient did not give any history of trauma or dental treatment in last 6 months.

On Intraoral examination a solitary, sessile growth was present in the inter dental space between 14 and 15, extending mesiodistally from mesial aspect of the 14 region up to the distal aspect of 15.(Figure 1).

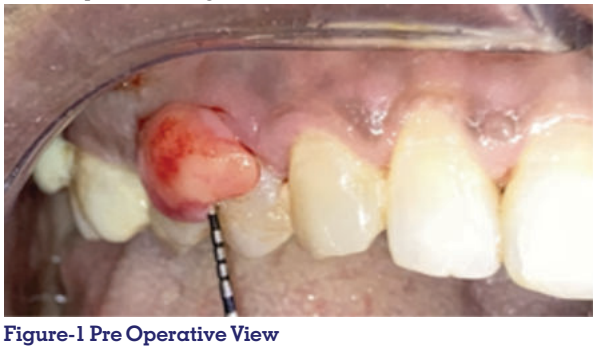

Figure-1 Pre Operative View

History revealed that the lesion started growing on its own since she first noticed it about two months back when it was a small nodule. The lesion was painless and occasionally bleed on its own or when traumatized with toothbrush. There was no significant medical and familial history.

It was of the same colour of the adjacent gingiva with the distal half being more reddish in colour. The growth was oval in shape and approximately 1.2×0.7× 0.5 cm in size in greatest dimensions with well-defined borders. The surface of the growth was lobulated. No secondary changes were seen related to ulceration and fungation. The growth was firm and nontender on palpation. The clinical differential diagnoses for the growth were pyogenic granuloma, traumatic fibroma, peripheral giant cell granuloma, and peripheral ossifying fibroma, and provisional diagnosis of pyogenic granuloma with respect to the 14, 15 regions was made for the gingival growth.

The patient was explained thoroughly about the whole surgical procedure being used and its related risks and benefits, after which her consent was taken. After routine blood examinations, excisional biopsy of the growth was done under antibiotic coverage and thorough curettage of the adjacent periodontal ligament, and periosteum was carried out to prevent recurrence. Tissue was sent for histo pathological examination. The patient was recalled after one week for review.

Surgical Procedure-

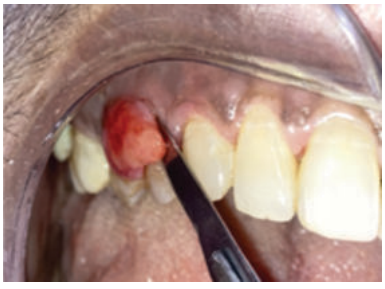

Figure-3 Incision

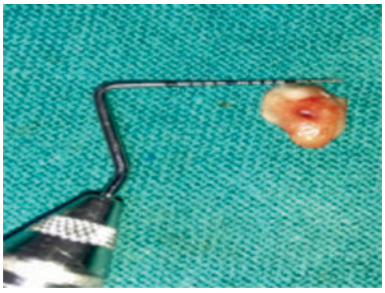

Figure-4 Excised Tissue

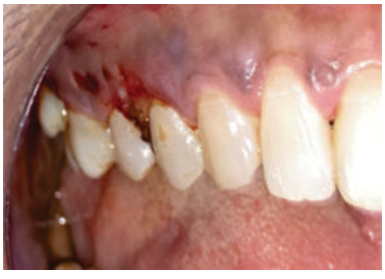

Figure-5 After Tissue Excision

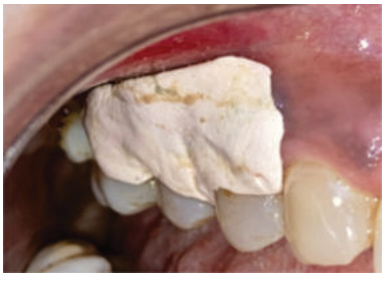

Figure-6 Periodontal Dressing

Histologically, Soft tissue H&E-stained specimen showed Para keratinized stratified squamous epithelium. Connective tissue was moderately collagenous, with large number of proliferating fibroblasts. Connective tissue showed numerous mineralised structures resembling to bony ossifications.

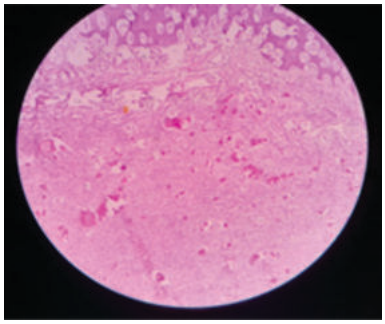

Figure-7 Histopathological Picture

Based on history, clinical presentation and histopathological examination, final diagnosis of peripheral ossifying fibroma with respect to the 14, 15 regions were put forth. The healing was uneventful with no recurrence at a 6-month follow-up.

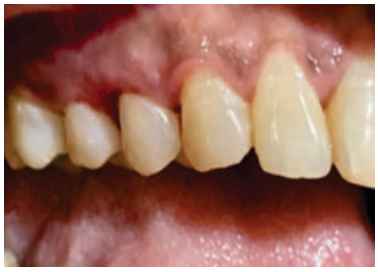

Figure- 8 Post Operative

DISCUSSION-

In 1872, Menzel first described the lesion ossifying fibroma, but its terminology was given by Montgomery in 1927 [5]. POF has also been described by various synonyms such as peripheral cemento-ossifying fibroma, peripheral fibroma with osteogenesis, peripheral odontogenic fibroma (PODF) with cementogenesis, peripheral fibroma with calcification, calcifying fibroblastic granuloma, fibrous epulis, etc[1].

Peripheral ossifying fibroma occurs mostly in craniofacial bones and it is categorized into central and peripheral type. The central type of ossifying fibroma arises from the periodontal ligament (PDL) or endosteum adjacent to the root apex and it expands from the medullary cavity of the bone, and the peripheral type of ossifying fibroma occurs on the soft tissues overlying the alveolar process of jaw [6]. Almost 60% of the lesions occur anterior to molars in the maxilla. The lesion is affecting mainly females and most common in the second decade of life.[7]

The reason why PDL has been considered as one of the etiological factors of POF is because of its solely occurrence in the gingiva (interdental papilla), the closeness of gingiva to the PDL, and the occurrence of oxytalan fibres within the mineralized matrix of few lesions.[8]

The lesion though usually smaller than 1.5 cm in diameter can reach a much larger size and can cause separation of the adjacent teeth, resorption of the alveolar crest, destruction of the bony structure and cosmetic deformity. Generally, the teeth remain unaffected, but rarely, there can be migration and loosening of adjacent teeth. [9]

Peripheral ossifying fibroma has to be differentiated from traumatic fibroma, peripheral giant cell granuloma, pyogenic granuloma, and peripheral odontogenic fibroma.

Peripheral odontogenic fibroma, an uncommon neoplasm that is believed to arise from odontogenic epithelial rests in periodontal ligament or attached gingiva itself. Traumatic fibroma commonly occurs on buccal mucosa along the bite line. Pyogenic granuloma is a soft, friable nodule which is small in size that bleeds with tendency to haemorrhage and may or may not occasionally or do not show calcifications. There is no tooth displacement and resorption of alveolar bone are not observed in pyogenic granuloma. Peripheral giant cell granuloma shows clinical features similar to POF however POF does not have the purple or blue discoloration which is commonly associated with peripheral giant cell granuloma and radiographically shows calcification flecks.[10]

Histologically, POF can exhibit either ulcerated or intact stratified squamous epithelium. In a typical ulcerated lesion, three zones could be identified:

Zone I: The superficial ulcerated zone covered with the fibrinous exudate and enmeshed with polymorpho nuclear neutrophils and debris.

Zone II: The zone beneath the surface epithelium composed almost exclusively of proliferating fibroblasts with diffuse infiltration of chronic inflammatory cells mostly lymphocytes and plasma cells.

Zone III: More collagenized connective tissue with less vascularity and high cellularity; osteogenesis consisting of osteoid and bone formation is a prominent feature, which can even reach the ulcerated surface in some cases.

The calcified material can generally take one or more of the following four forms: (a) mature lamellated trabecular bone; (b) immature, highly cellular bone; (c) circumscribed amorphous, almost acellular, eosinophilic, or basophilic bodies, and (4) minute microscopic granular foci of calcification.[1]

The nonulcerated lesions are typically identical to the ulcerated type except for the presence of surface epithelium. Cementum-like material is found in less than one-fifth of the lesions and dystrophic calcifications are more prevalent in ulcerated lesions. [7]

Treatment requires proper surgical intervention that ensures deep excision of the lesion including periosteum and affected periodontal ligament. Thorough root scaling of adjacent teeth and/or removal of other sources of irritants should be accomplished. Followup is essential because of the recurrence rates. Recurrence is due to incomplete excision and/or due to persistence of local factors. [4] In our patient, the histopathological evaluation of the excised lesion revealed inflammatory infiltrate along with calcification in the underlying connective tissue and hyperplastic epithelium.

CONCLUSION-

Peripheral ossifying fibroma is a slowly enlarging lesion, with a limited growth potential. Peripheral ossifying fibroma is a slowly enlarging lesion, with a limited growth potential. POF is many times clinically diagnosed as pyogenic granuloma, odontogenic tumours. Radiographic and histopathological examination is a must to confirm its diagnosis. Due to its relatively high recurrence rate, a long-term postoperative follow-up is very important in such cases.

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