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Case Report

PERIPHERAL OSSIFYING FIBROMA-A CASE REPORT

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A B S T R A C T

Oral cavity is a site of various localised gingival overgrowth. Most of these lesions are considered reactive in nature.These lesions are difficult to diagnose because they show similar clinical presentations. Some of these lesions are pyogenic granuloma, peripheral giant cell granuloma, and peripheral ossifying fibroma.This case report is regarding the management of Peripheral ossifying Fibroma in the left lateral-canine region,which is one among these reactive lesions.

INTRODUCTION

POF is a focal, reactive, non-neoplastic tumor like growth of the soft tissue that often arises from the interdental papilla. [1] It is believed to comprise about 9% of all gingival growths and to arise from the gingival corium, periosteum, and the periodontal membrane.These lesions may arise as a result of irritants such as trauma, microorganisms, plaque, calculus, restorations, and dental appliances. [2]

Researchers believe that peripheral ossifying fibroma develops initially as pyogenic granuloma due to their similarities in the clinical and hisopathologic features. [3]

Case Report

A 22 year old male patient visited with a chief complaint of a swelling and bleeding gums in the upper front teeth region since 9 months, which gradually increased in size.There was no associated history of pain.No other relevant medical history.

On clinical examination,a pedunculated,non-tender, localized gingival swelling of 1.2cm × 1cm size was seen extending between 21 and 22 which included theinterdental papilla, marginal gingiva and attached gingiva with respect to 21 and 22. Swelling was bright red in color with well-defined borders, appeared smooth and shiny, erythematous, soft in consistency. It was easily compressible on pressure and blanching was seen. Spontaneous bleeding occurred on probing the area, pocket was not present. [Figure 1]

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The lesion was painless, asymptomatic and esthetically unpleasant. Patient had discomfort only while brushing due to bleeding gums. On physical examination no lymph node enlargement or any other signs and symptoms present.
On hard tissue examination, there was moderate supra and sub gingival calculus with mild gingivitis. Radiographic examination revealed no radiographic bone loss. The differential diagnosis after complete examination of patient included irritation fibroma, pyogenic granuloma and POF. Based on the clinical and radiographic findings, the provisional diagnosis of pyogenic granuloma was made.

Initially a phase I nonsurgical therapy was performed, with full mouth scaling and curettage. Patient was advised to maintain oral hygiene with proper brushing twice daily and advised to use 0.2% chlorhexidine mouth rinse twice daily. Patient was recalled after 1 week. On observation there was no reduction in the size of the lesion. Hence, surgical approach was planned. After routine blood examinations, excisional biopsy of the growth was performed and thorough curettage was carried out to prevent recurrence [Figure 2a and b].After controlling bleeding, periodontal dressing was placed [Figure 3].Postoperative antibiotics were prescribed and instructions were given, and the patient was recalled after one week and one month for follow-up.

The excised tissue was sent for histopathological examination. The H&E section showed keratinized stratified squamous epithelum with areas of ulceration.Underlying connective tissue consists of dense bundles of collagen fibres moderately infiltrated with chronic inflammatory cells like lymphocytes and plasma cells and numerous blood capillaries.Central part of the lesion showed proliferating fibroblast cells with osteoid tissues. Based on the histopathological examination the

diagnosis of peripheral ossifying fibroma was made [Figure 4]. After one week, the pack was removed and irrigation was done and there was no recurrence of swelling. One month follow-up was done, and the lesion was totally eliminated [Figure 5].

DISCUSSION

Peripheral ossifying fibroma is a common solitary gingival growth which is thought to be reactive in nature. It was first cited in 1844 by Shepherd. [4] The term peripheral ossifying fibroma was coined in 1972 by Eversole and Robin. It is seen exclusively on the gingiva [5]as a slow growing mass with a size of 1-2cm in diameter. Larger lesions of size 9 cms are also reported.The growth can either be sessile or pedunculated and the color can vary from pink to red.The surface may be smooth, irregular or ulcerated. POF is seen more common in young adults, and the most of the reported cases occurred in females with 50% cases with maxillary incisor-canine predilection. The etiopathogenesis of this lesion is uncertain, but some authors suggested its orginfrom periodontal ligament cells due to its exclusive occurrence on the gingiva and also the presence of oxytalin fibers within mineralize dmatrix of somelesions. [6]

Prasad *et al* reported that in some cases POF may initially develop as a pyogenic granuloma which will undergoes further fibrous maturation and calcification. [7]

Figure 1 Pre-Op

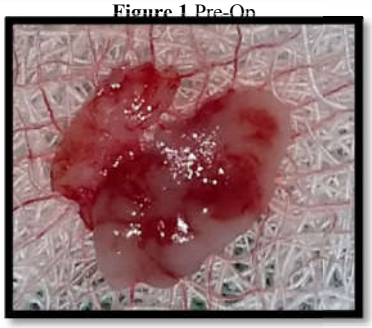

Figure 2a Excised Tissue

Figure 2b Post-Op

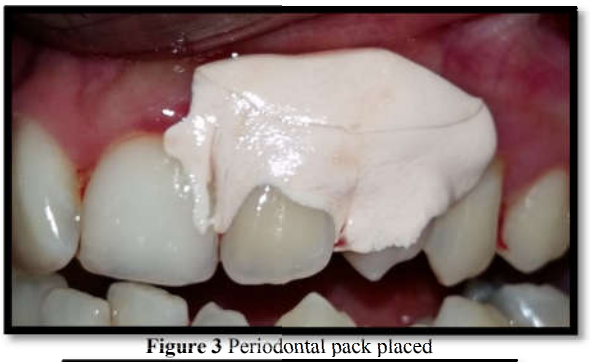

Figure 3 Periodontal pack placed

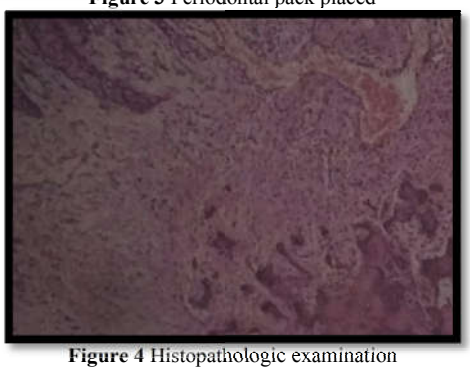

Figure 4 Histopathologic examination

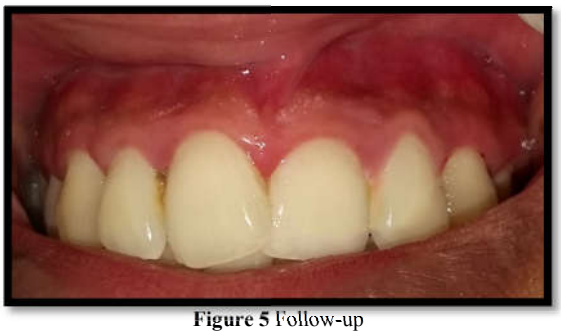

Figure 5 Follow-up

Ossifying fibromas are of two types, central and peripheral. The central type orginates from the periodontal ligament beside the root apex or endosteum and expands from the medullary cavity of the bone, [8] whereas the peripheral variant originates in reaction to local irritation which may be in the form of a traumatic event, plaque, calculus, bacterial, restorations and various prosthetic and orthodontic appliances [1]and occurs exclusively on the soft tissue covering the alveolar process. [8]Chronic irritation of the periosteal and periodontal membrane causes metaplasia of the connective tissue and usually results in initiation of bone formation. [9] Cementum-like material or dystrophic calcification may also be found occasionally. [5] Radiographically the features of POF tend to vary. Radioopaque foci of calcifications have been reported to be scattered in the central area of the lesion, but not in all lesions. Underlying bone involvement is usually not visible on a radiograph but rarely, there does appear to be superficial erosion of bone, displacement of teeth and delayed tooth eruption.[6]

The differential diagnosis includes fibroma, peripheral giant cell granuloma, pyogenic granuloma, peripheral odontogenic fibroma, and peripheral ossifying fibroma. The diagnosis can only be confirmed by histo-pathologic evaluation of the specimen.

Histologic examination of the lesion showed excessive cellular mass of connective tissue which comprises large numbers of plump, proliferating fibroblasts intermingled throughout the fibrillar stroma. [7]

The following features are usually observed during microscopic examination: 1) intact or ulcerated stratified squamous surface epithelium, 2) benign fibrous connective tissue with varying numbers of fibroblasts; 3) sparse to profuse endothelial proliferation; 4) mineralized material consisting of mature, lamellar or woven osteoid, cementum-like material, or dystrophic calcifications; and 5) acute or chronic inflammatory cells in lesions. [9] Peripheral ossifying fibroma is usually treated by surgical excision using scalpel, laser or electrosurgery. [10]

Neville *et al* suggested the removal of the lesion down to the adjacent periosteum and the adjacent teeth be scaled to remove any remaining irritants. [3] Any other identifiable irritant like an ill-fitting dental appliance or rough restorations if present should be removed. [11] If the lesion is present in esthetic zone, reconstructive surgery should be performed to repair the defect. [12] Different surgical techniques like coronally positioned flap, lateral sliding flap, subepithelial connective tissue graft, may be used to manage this defect and minimize patient esthetic concerns. [7]

CONCLUSION

Peripheral ossifying fibroma is a common soft tissue growth seen predominantly in the anterior maxilla. It is difficult to diagnose the lesion clinically and radiographically. Confirmatory diagnosis can be made with the help of histopathological examination of the excised tissue. Postoperative follow-up is mandatory as the lesion is having high recurrence rate. [10]

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