

Peripheral ossifying fibroma - A case report

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ABSTRACT

Solitary gingival growths are fairly common oral finding and include a diverse group of reactive and neoplastic growths. Peripheral ossifying fibroma is one such condition that is believed to develop from periodontal ligament. Though it is similar to other reactive lesions of the oral cavity, definite diagnosis is made on the histological examination. Patient's main concerns are that the lesions are painful and interfere with masticatory function and that they are not esthetic and often appear to bulge out from the face. The treatment includes complete excision of the lesion with thorough curettage of the underlying periosteum to prevent any recurrences. Care should also be taken to maintain the normal gingival architecture with periodontal plastic surgery whenever required. Recurrence rate is found to be 16% by various studies. No malignant transformation is being noted till now.

Introduction

Fibrous growths of the oral soft tissues are fairly common and include a diverse group of reactive and neoplastic conditions. One such growth is peripheral ossifying fibroma. It is typically a solitary, slow growing, sessile or pedunculated nodular reactive gingival lesion that is believed to arise from the cells of periodontal ligament and periosteum. It occurs in the second decade of life and more common in females. It is more common in maxilla than mandible and anterior than posterior region. Inflammatory hyperplasia originating in the superficial periodontal ligament is considered to be a factor in the histogenesis of POF. Treatment includes excision down to periosteum to eliminate any local irritants and care must be taken to maintain or re-establish acceptable gingival architecture and periodontal integrity. In this article we present a case report of peripheral ossifying fibroma and review of the literature.

Case Report

A 21yrs old male patient visited our clinic with the complaint of swelling of gums in the upper front region since 31/2mts. The swelling was initially small and slowly grown to the present size (Figure 1). It was a soft solitary swelling, sessile, non ulcerated, non tender and had a normal color of gingiva. The swelling was present in relation to attached gingiva of 11 and extending to marginal gingiva. The associated tooth was caries free and no apparent bone loss was seen surrounding the tooth on the radiograph. His medical and family history was non contributory and had no deleterious habits. A provisional diagnosis of peripheral ossifying fibroma or peripheral giant cell granuloma was made. Under local anaesthesia, the lesion was excised (Figure 2) and sent for histological examination. Care was taken to maintain the normal gingival architecture. The diagnosis of peripheral ossifying fibroma was confirmed. The wound healed uneventfully. No recurrence was found even after two years of followup.



Figure 1. Preoperative



Figure 2. Postoperative

Discussion

Peripheral ossifying fibroma is a solitary, slow growing nodular mass that is either pedunculated or sessile.[1] Most often it is located in the gingival papilla between adjacent teeth. It can occur at any age but most often in the second decade of life. Females are most often affected than males in the ratio of 3:2. Maxillary gingiva is more affected than mandible and anterior region more affected than posterior region.[2] The surface may be smooth or ulcerated and the lesion is pink to red in colour.[3] The lesion usually measures less than 1.5 cms in diameter, but lesions of 6cms and 9 cms diameters have also been reported.[4,5]

Considerable confusion has prevailed in the nomenclature of peripheral ossifying fibroma and this has contributed to an obscured understanding of this lesion. Commonly used synonyms include cementifying fibroma, peripheral fibroma, peripheral fibroma with cementogenesis, peripheral fibroma with osteogenesis, peripheral fibroma with calcification, calcifying or ossifying fibrous epulis, calcifying fibroblastic granuloma.[3,6]

Though the etiopathogenesis of POF is uncertain, an origin from cells of periodontal ligament has been suggested.[3] The reasons for considering a periodontal ligament origin include: excessive occurrence of POF in the gingival (interdental papilla, the proximity of the gingival to periodontal ligament, the presence of oxytalan fibres within the mineralized matrix of some lesion, the age distribution which is inversely related to the number of lost permanent teeth and the fibrocellular response in periodontal ligament.[1,7] Some investigators consider it a neoplastic process while others argue it is a reactive process. In either case, the lesion is thought to arise from cells in periodontal ligament. Trauma or local irritants such as dental plaque, calculus, microorganisms, masticatory forces, ill fitting dentures or poor quality restorations have been implicated in the etiology of POF.[1,7] The influence of hormone is considered to be the etiological factor in females.[6-8] The definite diagnosis of POF is made by histopathologic evaluation of biopsy specimens. The following features are usually observed during microscopic evaluation.

1. Benign fibrous connective tissue with varying content of fibroblast, myofibroblast and collagen
2. Sparse to profuse epithelial proliferation
3. Mineralized material which may represent mature, lamellar or woven osteoid, cementum like material or dystrophic calcifications.
4. Acute and chronic inflammatory cells are also identified.[3]

In some cases, this characteristic pattern is only part of the pattern of a larger lesion that may resemble an irritation fibroma or pyogenic granuloma.

In vast majority of cases there is no apparent underlying bone involvement visible on the roentgenogram. However, on occasions, there does appear to be superficial erosion of bone. Mobility and migration of adjacent teeth is occasionally observed.[1,4,7]

Peripheral ossifying fibroma has to be differentiated from inflammatory gingival hyperplasia, peripheral giant cell granuloma, pyogenic granuloma, fibroma and peripheral odontogenic fibroma. Peripheral odontogenic fibroma is an uncommon neoplasm that is

believed to arise from odontogenic epithelial rests in periodontal ligament or attached gingiva itself. It is considered to be extraosseous counterpart of the central odontogenic fibroma of world health organization type. It is firm slowly growing, sessile and nodular growth of the gingiva, often on mandibular buccal and labial aspect. The surface of the lesion is usually smooth and nonulcerated. It has a wide age range of occurrence and both sexes are affected equally. Histopathologically peripheral odontogenic fibroma consists of uncapsulated mass of interwoven cellular fibrous connective tissue that contains scattered nests or strands of odontogenic epithelium. Myxoid foci, osteoid, cementoid and dystrophic calcification are sometimes seen.[6] Pyogenic granuloma presents as soft, friable nodule that bleeds with minimal manipulation, but tooth displacement and resorption of alveolar bone are not observed. Peripheral giant cell granuloma has clinical features similar to POF; however POF lacks the purple or blue discolouration commonly associated with peripheral giant cell granuloma and radiographically shows flecks of calcification.[2] Excision down to periosteum is done to eliminate any local irritants. Care must be taken to maintain or reestablish acceptable gingival architecture and periodontal integrity. Cundiff has reported 16% rate of recurrence and Eversole and Rovin has given 20% recurrence rate.[1,9,10] A case of multicentric peripheral ossifying fibroma has been reported by Satish KS et al.[11]

Conclusion

POF being one of the commonest solitary swelling in the oral cavity is many a times is diagnosed as pyogenic granuloma clinically. The definite diagnosis is being made on the histological examination though it has lower rate of recurrence, complete excision of the lesion with the underlying periosteum will prevent its recurrence.

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