Peripheral Ossifying Fibroma – A case report

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Abstract - Peripheral ossifying fibroma (POF) represents a rare separate entity of reactive benign lesion of connective tissue origin, not the soft tissue counterpart of central ossifying fibroma.

KEYWORDS Maxilla, Fibroma,excision

Introduction

Peripheral ossifying fibroma is a reactive focal overgrowth, widely considered to originate from the cells of the periodontal ligament, occurring as a response to irritants such as dental calculus, plaque, micro-organisms, dental appliances and restorations. The Recurrence rate of POF is considered to benign for a benign reactive proliferation.[1] Synonyms of POF are peripheral cementifying fibroma, calcifying or ossifying fibroid epulis and peripheral fibroma with calcification.[2] It is typically seen as a gingival growth on interdental papilla and comprises about 9% of all gingival growths [1].Females are more commonly affected and anterior maxillais the most prevalent location Incidences ofrecurrence have been put at 16–20%[2]Fibromas of the gingiva arise mainly from the connective tissueor the periodontal ligament.[3] POF appears as a slow growing solitary mass which isusually sessile with a smooth or ulcerated surface. Adjacent teeth are usually unaffected, but in some cases, migration, mobility, and delay in the eruption of permanent teethmay occur.[4] The purpose of this article is to present a case of POF, briefly review the current literature on this condition and emphasizethe importance of discussion of a reasonable differentialdiagnosis with the patient.

A 15-year-old girl with swollen gums in his upperfront teeth region was came to the oral medicine and radiology department. The patient had noticed the swelling 2 months previously and observed that atpresent increased in size. The patient appeared apparently healthy with no any significant Medical history and dental history. Intraoral examination revealed an ovalshapedgingival mass in relation to the labialaspect of maxillary incisors, which interfered withher bite and the patient felt uncomfortable.

Figure.no.1: erythematous, well-circumscribed over growth on marginal gingival in relation to 21.

On inspection the over growth was well-circumscribed, pedunculated, and erythematous. Overgrowth originated from marginal gingival in relation with mesial surface of 21 to mesial surface of 23 antero-posteriorly and supero-inferiorly from marginal gingival to incisal edge of tooth (figure no. 1)The growth was oval in shape and approximately 0.5 × 1 cm in size in greatest dimensions with well-defined borders. On palpation the over growth was firm and measured approximately 0.5×1 cm in dimensions (figure no.2) The lesion was asymptomatic.. The overjet/overbite was observed was normal. Radiographic examination in the region of 21,22,23reveals the presence of irregular radiopacity evident in the mesial aspect of 21andmesial aspect of 23 with areas of cuffing evident in crestal region between 21 and 23.Based on the history, clinical examination and investigations, the case was provisionally diagnosed as peripheral ossifying fibroma [POF]. The differential diagnosis considered were peripheral giant cell granuloma, pyogenic granuloma, fibrous epulis, fibrous inflammatory hyperplasia. Under local anesthesia, excisional biopsy was performed using scalpel(figure no.5)The excision was planned so that the whole growth was removed in total with good margins to avoid future recurrence and the excised tissue was sent for radiological and histopathological investigations and the tissue was submitted to the Department of Oral Pathology for histopathological investigations(figure no.6) Histologically, the tissue section revealed hyperkeratinized stratified squamousepithelium with fibro vascular connective tissue. The epithelium showed slender rete ridges with atrophy in some areas. The connective tissue exhibited reticular arrangement of collagen bundles interrupted with vital bone. The section also showed numerous dilated capillaries. On the basis of clinical, histopathological, and radiographic examination, the diagnosis of POF was given. The patient was recalled for follow up after 1 week. The surgical site appeared healed properly.

Figure no.2 shows size 1-2cm of lesion

INVESTIGATIONS

1. Intraoral periapical radiograph was taken toover-rule any bony erosion concerned in thelesion, the lamina dura was intact in relation to 21 and 23(figure no.3)

2. Under histopathological evaluation, low magnification Revealed proliferating epithelium overlying the fibro cellular connective tissue stroma with mineralization(figure no. 4)

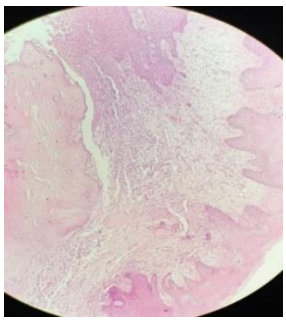

Figure no. 3 Histological calcification

Figure no.4 foci of calcification on radiograph

Figure no.5 post operative

Figure no.6 excised lesion

Discussion

Peripheral ossifying fibroma occurs mostly in craniofacial bones and categorized into 2 types central and peripheral. 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 andthe peripheral type occurs on the soft tissues overlying the alveolar process [4] The aetiopathogenesis of POF is uncertain, although an origin from the cells of the periodontal ligament has been suggested POF occurs more commonly in women and in the second Decade[11 A predilection for white people is observed[[13]Multicentric POF can also occur in theoral and maxillofacial region, and have been observed in conditions associated with known genetic mutations such as naevoid basal cell carcinoma syndrome, multiple endocrine neoplasia type II, neurofibromatosis and Gardner syndrome.[11] Pyogenic granuloma is the most common differentialdiagnosis with closest resemblance to POF both clinicallyand histopathologically. The initial stage of POF characterized by ulcerated epithelium, active fibroblast and few dystrophic type calcification simulated pyogenic granuloma.[8] When Calcification, one of the characteristic finding of POF is supposed to be initiated around the wall of blood vessels. POF shows different form of calcification with variation in its quantity and pattern of distribution. The calcified hard tissue is supposed either as bone or cementum and is justified by, POF originating from mesenchymal cells of periodontal ligament [8]one- and cementum-like tissues are observed, the lesions have been referred to as cement-ossifying fibroma. Cementifying fibromas may be clinically and radiographically impossible to separate from ossifying fibromas.[15]To minimize the possibility of recurrence, it is necessary to remove all risk factors, including plaque, calculus and plaque-retentive restorations[10]The lesion may be present for a number of months to years before excision, depending on the degree of ulceration, discomfort and interference. Treatment consists of conservative surgical excision and scaling of adjacent teeth. The rate of recurrence has been reported at 8.9%, 19%,14%, 9 and 16% Therefore, regular follow-up is required. Approximately 60% of POFs occur in the maxilla.[12]Ossifying fibroma can become large, causing extensive destruction of adjacent bone and

significant functional or esthetic alteration. It is vital to identify such lesions and manage them at the earliest, there are different modalities of treatment available which include surgical excision by scalpel, laser, or electrosurgery.[14]

CONCLUSION

The peripheral ossifying fibroma represents a localized reactive lesion of connective tissue. It has a predilection foroccurring in anterior maxilla of young women. The standard treatment protocol involves excisional biopsyfollowed by histopathological evaluation.Routine postoperative follow-up is essential in most casesbecause of the recurring tendency of the lesion.

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How to cite this Article:
Kharwade N., M. Rakkaraddi, Paraye S, Sadawarte S. Peripheral ossifying case report Journal of Interdisciplinary Dental Sciences, 2022;Jan - June11(1):22-26