

## Peripheral ossifying fibroma-A case report of mistaken identity

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**Abstract:** Gingival growths are one of the most commonly encountered lesions in the oral cavity. Most of these lesions are benign, but some do have malignant potential. These lesions may arise as a result of irritants, trauma, microorganisms, plaque, calculus, restorations and dental appliances. Different lesions with similar clinical appearance make it difficult to arrive at a correct diagnosis. One of the infrequently occurring gingival lesions is peripheral ossifying fibroma (POF). The purpose of this article is to present a case of POF, briefly review the current literature on this condition and emphasize the importance of discussion of such a lesion.

**Keywords:** Peripheral ossifying fibroma, Gingiva, Periperal gaint cell granuloma, Pyogenic granuloma, Fibroma.

### INTRODUCTION

Peripheral ossifying fibroma is a non neoplastic enlargement of the gingiva[1]. It is classified as reactive hyperplastic inflammatory lesion which is seen most commonly on the interdental papilla of the anterior maxillary gingiva [2]. They are most commonly seen in the second decade of life predominantly affecting the females more than males[3]. Most of the gingival lesions, such as irritational fibroma, pyogenic granuloma, peripheral ossifying fibroma and peripheral giant cell granuloma, are innocuous and rarely present with aggressive features. In the most of the cases, these lesions are the result of trauma or chronic irritation. One of the infrequently occurring gingival lesions is peripheral ossifying fibroma[4].

Our present case report is about an eighteen year old male patient who came with a chief complaint of pain in the lower right posterior region for past two months.

### CASE REPORT

An eighteen year old male patient reported to the department of oral medicine and radiology with a chief complaint of pain in the lower right posterior region for the past two months. The pain was chronic mild to moderate in intensity, increased on biting from that region, with no postural variations. The patient consulted a local physician for the same and was referred to the dental hospital.

On intra oral examination, a solitary sessile growth of gingival, reddish pink in color, measuring about 1.5 X 2.0 cm was seen on the right posterior mandibular region, extending antero posteriorly from the distal aspect of 47 to distal aspect of 48, extending from the lingual aspect of 48 coronally onto the occlusal surface.

The surface of the lesion appeared smooth with no ulcerations. No pus discharge or bleeding was noticed. The surrounding gingiva appeared normal. On palpation, inspeactory findings were confirmed. The lesion was moderately firm in consistency with mild pain but no burning sensation, pus discharge or bleeding on palpation. It was observed that the opposing teeth that is 17, 18 were impinging on the lesion during occlusion which was suspected as the reason for pain. An intra oral peri apical radiograph of the region 47, 48 was taken. The teeth which could be appreciated on the radiograph were 46,47,48. In respect to 47, no coronal changes were appreciated, there was horizontal interdental bone loss on mesial and distal side of 47. Diffuse radiolucency seen in the furcal area of 47 suggestive of inter radicular bone loss. In respect to 46, diffuse radiolucency seen in the furcal area suggestive of inter radicular bone loss.

Artifact's seen on the radiograph : An arc shaped radiolucency extending obliquely from the apical 1/3<sup>rd</sup> of the distal root of 46 to apical 1/3<sup>rd</sup> of mesial root of 47. A circular radiolucency seen on the coronal aspect of 46 on the mesial cusp.

A provisional diagnosis of inflammatory gingival enlargement was given and surgical excision of the lesion was done. The excised lesion was sent for pathological analysis. The definitive diagnosis after the histopathological evaluation was peripheral ossifying fibroma.



**Fig-1:Gingival lesion on the right posterior mandibular region**



**Fig-2: Intra oral periapical radiograph of 46, 47, 48 showing horizontal inter dental and inter radicular bone loss**



**Fig-3: Recall visit after complete surgical excision**

The term peripheral ossifying fibroma was coined by Gardner in the year 1982 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[5]. Many names have been given to similar lesions, such as epulis, peripheral fibroma with calcification, peripheral ossifying fibroma, calcifying fibroblastic granuloma, peripheral odontogenic fibroma peripheral cementifying fibroma, and peripheral cemento-ossifying fibroma[6]. The sheer number of names used for fibroblastic gingival lesions indicates that there is much controversy surrounding the classification of these lesions[7].

The term 'peripheral odontogenic fibroma' has also been used to describe peripheral ossifying fibroma but should be avoided, as peripheral odontogenic fibroma has been designated by the World Health Organization(WHO) as the rare and extraosseous counterpart of central odontogenic fibroma and histologically presents as a fibroblastic neoplasm containing odontogenic epithelium[8].

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), and the presence of oxytalan fibers within the mineralized matrix of some lesions[9]. The mature fibrous connective tissue proliferates excessively in response to gingival injury, gingival irritation, subgingival calculus or a foreign body in the gingival sulcus. Chronic irritation of the periosteal and periodontal membranes causes metaplasia of the connective tissue and initiates the formation of bone or dystrophic calcification. Thus, local irritants such as dental plaque, calculus, microorganisms, masticatory forces, ill-fitting dentures and poor quality restorations have been implicated in the etiology of POF[10]. In addition, factors such as a higher prevalence in females and a peak occurrence in the second decade of life suggest hormonal influences[11]. The rare manifestation of multicentric occurrence points to a role of genetics in the pathogenesis of this disease[9].

Clinically, POF appears as a solitary nodular mass that is either pedunculated or sessile, affecting both genders but having a greater female predilection with peak incidence in the second decade of life[12]. The surface mucosal color ranges from red to pink, and the surface is frequently ulcerated. The mass usually arises from the interdental papilla[13]. Lesions occur slightly more frequently in the maxillary arch (60%) and the incisor cuspid region (50%).[14] Our present case showed a deviation from these preferred sites and occurred in the mandibular posterior region. Radiographically, POF can appear as diffuse

## DISCUSSION

radiopaque calcification, but not all lesions exhibit these characteristics. Occasionally, these lesions are associated with bone destruction[15]. In our case horizontal bone loss was the only radiographic change which could be appreciated. When presented clinically with a gingival lesion, it is important to establish a differential diagnosis. In this case, the clinical features led to a differential diagnosis of pyogenic granuloma, and a provisional diagnosis of inflammatory gingival enlargement. Though pyogenic granuloma can be considered as a differential diagnosis, it is usually purplish blue in color and bleeds readily[15].

POF is definitively diagnosed through a histopathological examination. The histopathological examination usually shows the following features: 1) benign fibrous connective tissue with varying fibroblast, myofibroblast and collagen content, 2) sparse to profuse endothelial proliferation, and 3) mineralized material that may represent mature, lamellar or woven osteoid, cementum-like material, or dystrophic calcifications[13]. Acute or chronic inflammatory cell infiltration can also be observed in these lesions. The treatment of choice is complete surgical excision with the removal of the irritating factors[13].

Due to the high rate of recurrence (8% to 20%), close postoperative monitoring is required in all cases of POF (1). POF recurs due to 1) the incomplete removal of the lesion, 2) the failure to eliminate local irritants and 3) difficulty in accessing the lesion during surgical manipulation as a result of the intricate location of the lesion[12]. In our case complete surgical excision of the lesion was done, and recalled for review. There was no recurrence of the lesion, the patient was then sent for oral prophylaxis and oral hygiene instructions were given.

## CONCLUSION

POF is a slowly progressing lesion, the growth of which is generally limited. Many cases will progress for long periods before patients seek treatment because of the lack of symptoms associated with the lesion. A slowly growing pink soft tissue nodule in the anterior maxilla of an adolescent should raise suspicion of a POF though in many cases the location is not pathognomic. Complete surgical excision of the lesion will ensure no recurrence and is the line of treatment generally followed.

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