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Peripheral Ossifying Fibroma: A Clinical Report

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Abstract
The gingiva is often the site of localized growths that are considered reactive in nature rather than neoplastic. Many of them are difficult to identify clinically and hence are identified as specific entities based on their typical and steady histomorphology. Peripheral ossifying fibroma is one of those reactive lesions. Though it has been described with different synonyms and is believed to originate in the periodontal membrane comprising about 9% of all gingival growths. The size of the lesion is usually small, located mostly in the anterior maxillary gingiva and have a greater predilection for females. It occurs mostly in the second decade of life. We present a clinical report of a 34-year-old woman with a large peripheral ossifying fibroma confined in the posterior maxillary region that shows significant growth and cause occlusion interference.

Keywords: *Gingival growth, Peripheral ossifying fibroma, peripheral cemento-ossifying fibroma, fibrous epulis, calcifying fibroblastic granuloma.*

Introduction

The appearance of gingival lesions is a regular clinical finding; however, the site of these lesions determines its rarity. The extensive use of the term "fibroma" with respect to the diagnosis of swelling or swelling in the oral mucosa and gingiva was often misleading for young dentists. The term "epulis" is used for more vascular, smaller and less fibrous gingival lesions, most often by experienced periodontists or experienced general practitioners. Peripheral ossifying fibroma (POF) is a relatively rare and reactive gingival proliferation, it is composed of cellular fibroblastic tissue which contains one or more mineralized tissues, cement-like material or dystrophic calcifications, bone etc., In most of the cases, the lesion originates from interdental papilla, which is often closely related to fibrous inflammatory hyperplasia.[1] It can be pedunculated or broad, usually soft and varies from pale pink to cherry red. It contributes to approximately 9% of

all gingival growths and is believed to be produced from the gingival chorion, the periosteum and the periodontal membrane. There is increased evidence that it represent a maturation of a pre-existing pyogenic granuloma or a peripheral giant cell granuloma.[2] In the present case report, a very atypical case of POF in a female patient is discussed, which has become larger in proportions, because of its nonaggressive, asymptomatic behavior ultimately leading to an aesthetic, unpleasant appearance, and compelling the patient to undergo immediate treatment.

Clinical Report

A 34-year-old woman reported with the chief complaint of soft tissue growth on her palate. Intraoral examination revealed a painless pedunculated, cauliflower-like rubbery mass on the palatal aspect of the maxillary right permanent molar approaching towards the occlusal surface (Figure 1 & 2). The lesion was abnormally large about 3 cm mesiodistally and 2 cm buccopalatally and the side of the lesion facing the occlusal surface was focally ulcerated. History revealed that the lesion started growing on its own since she first noticed it about a month back when it was a small nodule which was painless and infrequently bled on its own or due to toothbrush trauma and in its present state was interfering with occlusion. There was no significant medical and familial history. The lesion had well-defined margins. Radiographically, there was no definite radiolucency in relation to the premolars. Orthopantomogram revealed no signs of bony involvement

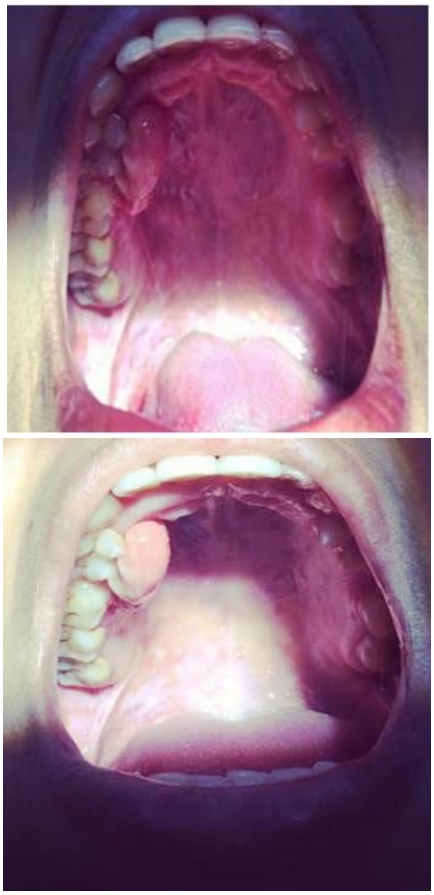

Fig 1 & 2: Clinical representation of the lesion

Fig 3: Resection of the lesion

Fig 4: Follow up

Following the routine blood examinations, excisional biopsy of the lesion was performed (Figure 3) under antibiotic coverage after which thorough curettage of the adjacent periodontium, and periosteum was carried out in order to prevent recurrence. Histomorphological examination showed evidence of calcifications in the hypercellular fibroblastic stroma confirming the lesion as POF. The follow-up of the case showed normal healing of the area (Figure 4).

Discussion

POF was reported for the first time by the Shepherd in 1844 as alveolar exostosis. Eversol and Rovin coined the term "POF" in 1972. POF is described by various synonyms such as peripheral cemento-ossifying fibroma, peripheral odontogenic fibroma (PODF) with cementogenesis, peripheral fibroma with calcification, fibrous epulis, peripheral fibroma with osteogenesis, calcifying fibroblastic granuloma, etc.[2&3] Almost 60% of the lesions are present in maxilla and mostly lie anterior to molars. It is more common in the second decade of life that mainly affects women.[4] The lesion can result when triggered with various irritants such as dental plaque and calculus, periopathogens, dental appliances and restorations.[5] The lesion though is usually smaller than 1.5 cm in diameter but can reach a much larger size and can cause displacement of the adjacent teeth, resorption of the alveolar bone, destruction of bony structure along with cosmetic deformity.[6]

The term POF is more often confused with PODF, which is a rare peripheral counterpart of central odontogenic fibroma. In Northern America, it is sometimes synonymously used by many for POF as the lesion is thought by them to be derived from the periodontal membrane and hence thought to be odontogenic. The evidence for its odontogenic origin is concomitant being based partly on the demonstration of oxytalan fibers within its calcified structures along with its exclusive occurrence on gingiva. However, these oxytalan fibers have also been reported to be present in the sites other than the periodontal membrane.[5] POF occurs mostly in females and in the anterior maxillary region, whereas, PODF has a predilection for males and are present in posterior mandible.[7] Sometimes, even an unusual occurrence of a POF associated with dental pulp has been reported[8]

The POF and ossifying fibroma (OF) both exhibit similar histomorphologic features and also both originate from cells of periodontal ligament. The major difference between them is that POF is a reactive lesion where as an OF is a benign neoplastic lesion included in the group of benign fibro-osseous lesions of the jaws and both POF and OF show different proliferative activities.[9] The ulcerated lesions are usually accompanied by painful but in this case it was not painful. Gingival lesions which imitate POF are peripheral giant cell granuloma, pyogenic granuloma, fibroma, calcifying epithelial odontogenic cyst, calcifying odontogenic cyst, etc.[10]

Treatment includes proper surgical intervention to ensures deep excision of the lesion which includes periosteum and affected periodontal membrane. Thorough scaling and root planing of adjacent teeth along with removal of other sources of irritants. In children, reactive gingival lesions can display spontaneous growth rate and reach significant size in a relatively short period of time. In addition, the POF can also lead to erosion of the involved bone, displacement of teeth, and can interfere or cause delayed tooth eruption. Early recognition and intervention employing definitive surgical therapy can result in less risk of tooth and bone loss.[7] In accordance to the literature, recurrence rate varies from 7 to 20% as per different authors.[5]

It has been suggested, there is no absolute distinction between bone and cementum histologically, as the cementum-like globules of calcification are found in fibro-osseous lesions in almost all membrane bones, so it would be impractical to differentiate the ossifying and cementifying lesions. It is hypothesized that the fibro-osseous lesions may represent stages in the

growth of a single disease process which passes from the stages of fibrous dysplasia to ossifying fibroma to cementoid lesions.[11]

To conclude, although it is difficult to characterize between reactive gingival lesions clinically especially in the early stages. Regardless of the different surgical technique used, it is mandatory to eliminate the underlying etiological factors resulting in such lesions and the tissue need to be histologically evaluated for confirmation.

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