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CASE REPORT **OPEN ACCESS**

The Silent Growth: Unmasking Peripheral Ossifying Fibroma – A Case Report

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A B S T R A C T

Introduction: Peripheral ossifying fibroma (POF) is a nonneoplastic enlargement of the gingiva precipitated by local irritation and minor trauma. POF represents 9.6% of all gingival tumors and 3.1% of the oral lesions which are biopsied. Dental calculus, plaque, microorganisms, dental appliances, and restorations are some of the etiological factors.

Case Report: This case report deals with a 35-year-old female presented with a complaint of a growth on the maxillary right posterior gingiva. Clinical examination revealed a firm, pinkish-red, pedunculated lesion interdentally over tooth 16. The lesion was tender and measured approximately 1.2 cm in diameter. Histopathological analysis confirmed the diagnosis of peripheral ossifying fibroma, characterized by fibroblastic connective tissue with focal areas of mineralization.

Management: The lesion was surgically exercised using the conventional scalpel method, and postoperative healing was uneventful. The patient was advised to maintain oral hygiene and regular follow-ups to monitor for recurrence.

Keywords: Peripheral Ossifying Fibroma, Gingival Growth, POF , Gingival Lesions

INTRODUCTION

Peripheral ossifying fibroma (POF) which is also called peripheral cemento-ossifying fibroma, peripheral fibroma with calcification, and calcifying or ossifying fibroid epulis. This kind of reactive lesion is localized and affects gingiva. It is a reactive, non-neoplastic lesion that may have a smooth, soft surface. According to statistics, the maxillary anterior region accounts for 60% of lesions. It might be light pink or dark cherry red, according to the lesion's color. The interdental papilla is one location where it frequently occurs. Although the exact cause of POF is unknown, it has been suggested that the lesion develops from the periodontal ligament (PDL) because of irritating elements such as plaque, calculus, trauma, and microbes.[1] Females in their second to fourth decade of life are most likely to experience it. Radiographically, no changes are often seen; however, occasionally, regions of radiopacity may be seen. Surgical intervention, comprehensive oral prophylaxis, and early identification are available treatment options. Between 8% and 20% of lesions reoccur, with inadequate surgical excision and the presence of irritants being the most frequent causes.[2]

CASE REPORT

A 35-year-old female patient reported to the Department of Oral and Maxillofacial Pathology complaining of intra-oral swelling on the right side of the posterior maxillary gingiva for the past five months. The patient complained of difficulty

in speech and mastication because of the swelling. History revealed that swelling has been small but has gradually increased to the present size over a period of time. Bleeding from the site was also observed during the brushing of the teeth. The patient has hypothyroidism and hypertensive and was under medication.

Extra-oral examination revealed no gross asymmetry. Regional lymph nodes were not palpable. Intra-oral examination revealed the presence of firm, mobile, non-tender, soft tissue growth of size 0.8 x 0.5 x 1.2 cm seen in the upper right maxillary 16 region. No regional mobility of the teeth was observed.

The orthopantomogram revealed no radiopacities. Based on history, clinical presentation, and radiological investigation, the lesion was given a differential diagnosis of fibroma, peripheral odontogenic fibroma and periphery ossifying fibroma.

Due to the presence of stain and calculus the patient was advised for oral prophylaxis and referred to the department of Periodontics, where first oral prophylaxis was performed, after that the patient was advised for surgical excision of the mass.

Routine blood test was done prior to surgery, which all came back to be normal. The patient was prepped for surgery after getting written consent. The area was anesthetized with 2% lignocaine with 1:200000 adrenaline. The lesion was marked 1mm away from its margin and excision of the lesion was done with respect to maxillary right 1st molar on the buccal aspect using 15C Bard Parker blade. The excision was extended from the gingival sulcus to the depth of the periosteum and included adjacent teeth in the periphery. Open flap debridement was done to remove diseased granulation tissue and periosteum. The surgical site was thoroughly irrigated with povidone iodine and pressure pack was given to achieve hemostasis. The excised tissue was sent for histopathological study. The patient was followed for seven days and kept under antibiotic and analgesic coverage. Satisfactory healing of the surgical site was notable on 2 week follow up.

Microscopically the H&E-stained section reveals the presence of hyper- parakeratotic stratified squamous epithelium with underlying fibrovascular connective tissue stroma. The stroma is characterized by focal trabeculae of lamellar bone and intense nonspecific chronic inflammatory infiltrate. Correlating clinically, radiographically and histopathologically, the diagnosis was confirmed as PERIPHERAL OSSIFYING FIBROMA.

The patient was kept on regular follow-up for the past four months and satisfactory healing was present without signs of recurrence.

Fig 1 (A)Pre-op Extraoral photograph showing no significant changes ; Fig 1(B) Pre op intraoral radiograph showing a solitary dome shaped erythematous nodular growth in the gingiva w.r.t 16

FIG 2– Showing an OPG with no significant changes

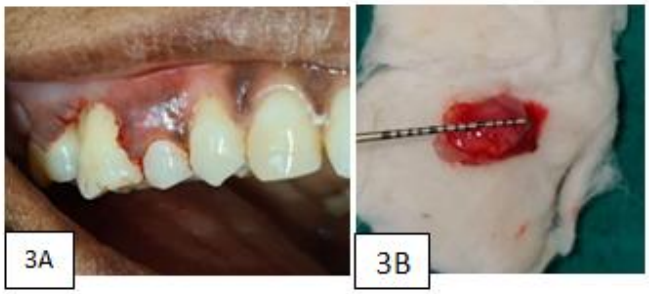

Fig 3 (A) 3A- After excision of the tissue around upper right posterior first molar with no. 15C blade underlocal anesthesia;

Fig 3(B) Nodular growth of around 8mm size was obtained after the excision

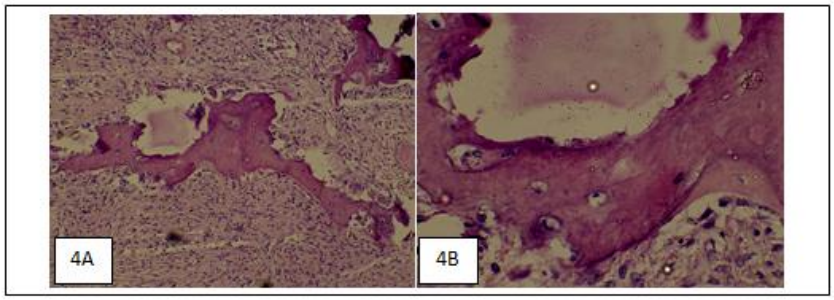

Fig 4 (A) Low power (10X) photo-micrograph showing an immature bony trabecula in a fibroblast rich stroma; Fig 4(B) High power (40X) photo-micrograph showing osteoblastic rimming as well as mature osteocytes

DISCUSSION

Peripheral ossifying fibromas had been defined within literature since the late 1940s. Many names have been given to similar lesions, such as epulis, peripheral fibroma with calcification, peripheral ossifying fibroma, calcifying fibroblastic granuloma, peripheral cementifying fibroma, peripheral fibroma with cementogenesis and peripheral cemento-ossifying fibroma. The sheer number of names used for fibroblastic gingival lesions indicates that there is much controversy surrounding the classification of these lesions.[3] Peripheral ossifying fibroma can arise at any age, even though it seems to be a common lesion in youngsters. In a study of 365 cases by Cundiff [4], 50% of the lesions occurred between the ages of five and 25 years with the peak incidence at 13 years, while the mean age was 29 years. Most reported series of cases show a predilection for occurrence in females by a ratio ranging from 2:1 to 3:2. In addition, the lesions are approximately equally divided between the maxilla and the mandible. In the series reported by Cundiff [4], over 80% of the

lesions in both jaws occurred anterior to the molar area. A series of 185 cases of 'peripheral fibroma with calcification' were also reported by Bhaskar and Jacoway[5] with very similar clinical data. The clinical appearance of the lesion is characteristic but not pathognomonic. Hormonal affects can also play an additional, given the higher occurrence of POF amongst females in the 2nd decade and declining occurrence after the third decade of life. In an isolated case of multicentric POF, Kumar and others noted the presence of a lesion at an edentulous site in a 49-year-old woman, which once again raises questions regarding the pathogenesis of this type of lesion.[6,7]It is a well-demarcated focal mass of tissue at the gingiva, with a sessile or pedunculated base. It is of equal coloring to that of the normal oral mucosa or slightly reddened. The surface may be intact or ulcerated. It most commonly appears to originate from an interdental papilla. Despite its non-neoplastic nature, POF can precipitate widespread pain and influence oral health if left untreated. The peripheral variation of ossifying fibroma emerges at the soft tissues enveloping the alveolar process, while the central type originates from the endosteum or the PDL adjoining to the root apex and grows from the medullary cavity of the bone. The exact etiology of POF remains unclear, although it is believed to arise from the PDL or gingival connective tissue in response to chronic irritation or trauma. Factors together with terrible oral hygiene, ill-becoming dental appliances, and hormonal modifications might additionally predispose people to the formation of POF. Additionally, local irritants like dental plaque, calculus and foreign items lodged within the gingiva had been implicated in its pathogenesis. These lesions microscopically reveal stratified squamous epithelium overlying an extraordinarily dense mass of connective tissue, consisting of plump fibrocytes, fibrillar stroma and plump fibroblasts, as well as areas of mineralization and, occasionally, multinucleated giant cells nearby. in the mineralized products we can find cementum like material or dystrophic calcifications Early ulcerated lesions generally showcase dystrophic calcifications, however older, mature, non-ulcerated lesions show well-shaped bone and cementum like material.[8] In our case the patient was a 35-year-old female who complained of a painful solitary nodular growth on the upper left maxillary gingiva in relation to 15 tooth, patient had poor oral hygiene that resulted in the thick calculus deposition her teeth. Treatment of choice was excision of the mass and periodic follow up. Histopathologically it was corroborative to classical characteristics of peripheral ossifying fibroma. Treatment for peripheral odontogenic fibromas is surgical excision which was done in our case. Other treatment modalities which are gaining popularity these days include cryotherapy, cauterization and diode-laser therapy. [9,10,11] Peripheral Ossifying Fibroma (POF) is a relatively uncommon, reactive, and non-neoplastic lesion predominantly affecting gingiva. The diagnosis of POF is primarily clinical and confirmatory by histopathological examination to differentiate it from other similar lesions such as pyogenic granuloma and peripheral giant cell granuloma. Surgical excision remains the treatment of choice, with recurrence being a notable concern, necessitating regular follow-up.[12]

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