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Case Report

Peripheral Ossifying Fibroma: A Case Report

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Abstract

A benign fibrous growth called a peripheral osseous fibroma (POF) frequently develops in the mouth's gingival tissues. Despite the fact that POF is not malignant, its rapid growth, potential for discomfort, and impact on oral health can be concerning. In this case report, we provide a 50-year-old female patient's case of peripheral osseous fibroma in the area of the maxillary anterior tooth, along with clinical and histopathological examination results, as well as information on current and potential future treatments. The term "peripheral ossifying fibroma" (POF) refers to an abnormal growth of the gingiva that is often fibromatic in nature and not cancerous. Peripheral cementifying fibroma, peripheral fibroma with calcification, calcifying or ossifying fibrous epulis, and calcifying fibroblastic granuloma are all synonyms for POF.

Keywords: Peripheral; Ossifying; Fibroma

Introduction

Numerous localised reactive lesions, including peripheral giant cell granuloma, localised fibrous hyperplasia, and peripheral ossifying fibroma (POF), are seen in the gingiva [1]. POF is a rare, focal, reactive, non-neoplastic growth of the soft tissue that primarily develops from the interdental papilla. It is also known as peripheral cementifying fibroma, peripheral fibroma with cementogenesis, peripheral fibroma with osteogenesis, peripheral fibroma with calcification, calcified or ossified fibrous epulis, and calcified fibroblastic granuloma. The periodontal ligament cells are widely believed to be the source of this lesion, which is frequently linked to trauma or local irritants like subgingival plaque and calculus, dental appliances, and subpar dental restorations. Clinically, POFs are sessile or pedunculated, typically erythematous and ulcerated, or show a colour like the gingiva around them [2]. Pyogenic granuloma is one of the most frequent gingival overgrowths in gingiva, despite the fact that peripheral ossifying fibroma is also seen in the region around the anterior tooth [3,4]. The anterior maxilla is the most prevalent site of incidence, and females are more frequently affected than males. POFs can be identified at any age, with the second decade of life being the peak. Ossifying fibromas, which typically come in two varieties—central and peripheral-occur most frequently in the bones of the craniofacial region. The central type of osseous fibroma is one that originates from the endosteum or PDL close to the root apex and spreads from the medullary cavity of the bone. Peripheral type osseous fibromas only occur on the soft tissues that cover the alveolar process and have no contiguous relationship with the PDL [5,6]. The case report of a 50-year-old female patient with peripheral ossifying fibroma, its diagnosis, successful clinical therapy, and future treatment planning are highlighted in this paper [7].

Case Report

A 50-year-old female patient was brought to the periodontology section with the complaint of swelling and discomfort during eating and speaking as a result of a growth in the area of the top front teeth. The patient first observed a single nontender, tiny nodule six months prior, and it continued to grow in size until the patient's current presentation. At that time, there was no substantial medical history, no history of any medicine, and no pertinent history of bleeding or discomfort. During an intraoral examination, it was discovered that the upper left canine and premolars, numbers 23, 24, and 25, had a single, pedunculated, 2 x 1.5 x 0.8 erythematous, non-hemorrhagic, non-tender growth present on the interdental and marginal gingiva. (Figure 1) As differential diagnoses, POF, peripheral giant cell granuloma, gingival fibroma, pyogenic granuloma,

and peripheral odontogenic fibroma were recognised. A haematological inquiry was conducted, including a full blood count and blood sugar readings, and all the results were normal. Interdental bone loss was discovered as a result of radiological evaluation using an OPG scan (Figure 2). Following a clinical, haematological, and radiographic examination, the following procedures are planned: patient education and motivation, oral hygiene recommendations, thorough scaling and root planing, reevaluation, and surgical excision of the lesion under local anaesthesia. On the scheduled day for supragingival ultrasonic scaling. After 15 days of SRP, a reevaluation was conducted and a surgical excision plan was made. Under local anaesthesia, the growth was completely surgically removed, along with thorough curettage, and mouthwash (0.2% chlorhexidine gluconate twice-daily for one week) (Figure 3,4)., the patient also received post-operative instructions. For follow-up, she was recalled after a week. The sampled tissue (Figure 5) was immersed in 10% neutral buffered formalin before being sent for histopathological analysis. On histopathological examination, low power magnification (4x) showed a parakeratinised stratified squamous epithelium of variable thickness overlying and connective tissue stroma. The underlying connective tissue is dense and fibrous in

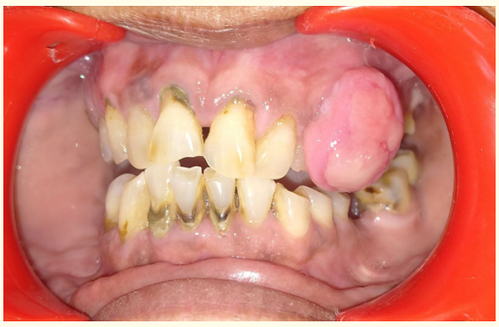

Figure 1: Single, pedunculated, erythematous, non-hemorrhagic, non-tender growth present on the interdental and marginal gingiva.

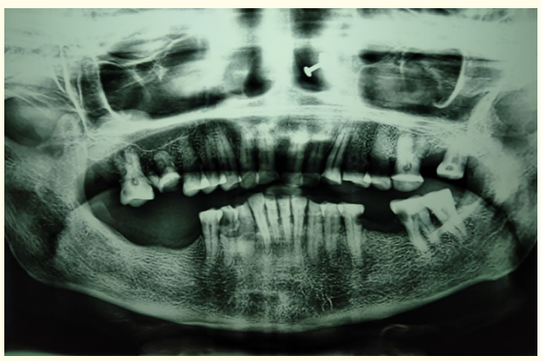

Figure 2: OPG.

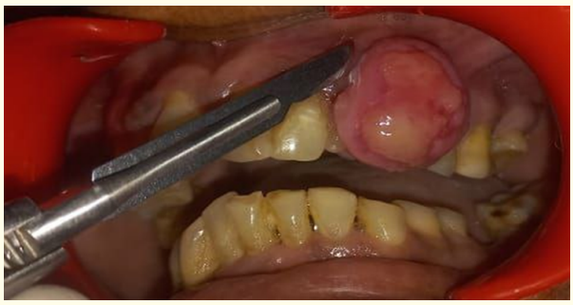

Figure 3: After ultrasonic scaling incision are placed.

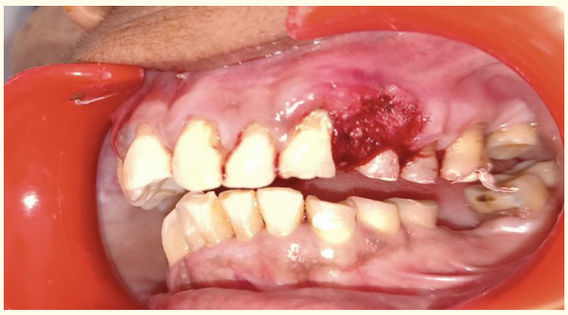

Figure 4: Removal of swelling.

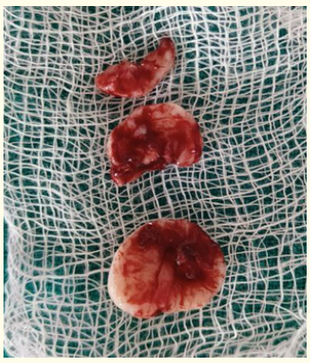

Figure 5: Sample sent for examination.

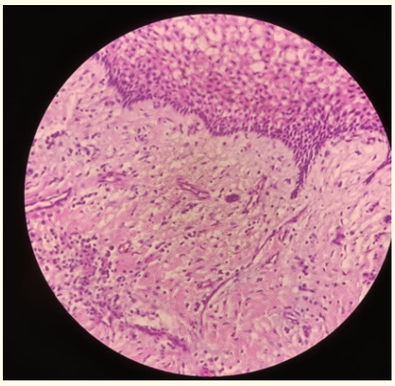

Figure 6: Microscopical picture of peripheral ossifying fibroma.

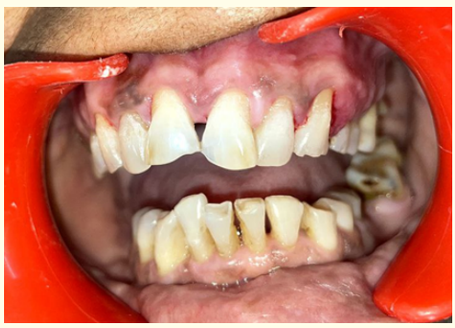

Figure 7: After 3 months follow up

nature with numerous blood vessels and extravasated RBCs. C.T. stroma also shows chronic inflammatory cells predominantly lymphocytes. Trabecular woven bone can be appreciated with osteoblastic rimming and osteocytes inside the lacunae (Figure 6). The patient arrived for the periodontal dressing removal and follow-up assessment at the one-week post-operative visit. A good healing was achieved. Patient receives routine follow-up. At the three-month checkup, there had been no recurrence (Figure 7).

Discussion

Peripheral Ossifying Fibroma (POF) is a non-cancerous, reactive growth that commonly occurs in the gums or other soft tissues of the mouth. It often appears as a pinkish-red lump and is more frequently found in young individuals, particularly females. The exact cause of POF is not completely understood, but it's believed to be a reaction to local irritants like plaque, calculus, or trauma. While POF is not typically painful, it can cause discomfort if it interferes with activities like chewing or speaking.

POF typically presents as a smooth-surfaced, pedunculated or sessile mass with a coloration ranging from pink to red. In some cases, it may appear ulcerated due to secondary trauma. It is essential to note that POF is painless unless it interferes with oral hygiene or function. The most frequent site for POF development is the interdental papilla, commonly seen between anterior teeth. However, it can occur anywhere in the oral cavity. On radiographic examination, POF may exhibit a radiopaque rim, indicating the presence of calcifications within the lesion. This can aid in distinguishing it from other oral soft tissue growths. Accurate diagnosis of POF is crucial for effective management. This involves a comprehensive evaluation, including: A thorough examination of the oral cavity, focusing on the appearance, size, and location of the lesion, is the initial step in diagnosis, X-rays or other imaging techniques may be employed to assess the extent of calcification within the lesion, A biopsy is often necessary to confirm the diagnosis. Histopathological examination reveals characteristic features, such as fibrous tissue and the presence of calcifications.

After doing the necessary clinical haematological and radiological investigations, the tumour was surgically removed under local anaesthesia. In addition to excision, deep subgingival curettage is performed to ensure that the tumour has been completely removed. Through histological analysis, POF was identified as the sole diagnosis. Histologically, this lesion's most distinctive characteristic is a very cellular mass of connective tissue made up of several big, growing fibroblasts that are interspersed throughout with fine fibrillar stroma.

The recommended course of treatment, which was carried out in our instance as well, consists of complete surgical excision along with thorough periodontal curettage. Due to persistent local irritants, repetitive damage, and surgical failure in 8%–20% of instances, POF may still recur even after being surgically removed.

Conclusion

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