

Recurrence peripheral ossifying fibroma: A case report

Abstract

Peripheral ossifying fibroma (POF) is one of the reactive lesions that commonly affect gingival. Among the reactive lesions, POF has the characteristic of recurrence. At present, we reported the POF case of recurrence in a healthy male 25 years old who had surgery in the same area in the last 4 years. In this patient, the lesion shows clinical features similar to pyogenic granuloma, leading to confusion in the clinical diagnosis; therefore, a biopsy must be performed. In addition, the recurrence of the lesion may be caused by incomplete surgery of the lesion in previous treatment. Therefore, in this case, we treated the lesion with excisional surgery and root planning with tooth N; 23 to remove the periodontal ligament and periosteal, but we didn't extract tooth N; 23 because the patient was not available. However, we also suggest the patient come to the clinic for follow-up.

Key word: Peripheral ossifying fibroma, gingival reactive lesion, fibro-osseous lesions

Introduction

In oral cavity, gingival is the most common site of the reactive lesions ^{(1) (2) (3)}. There are numerous lesions that show closely similar clinical features, causing confusion about the clinical diagnosis⁽⁴⁾. According to the 2017 World Health Organization classification of Head and Neck Tumors, fibro-osseous lesions are benign bone tumors that are characterized by a normal bone entity replaced by fibrous connective tissue that becomes a newly mineralized product⁽⁵⁾. This lesion includes ossifying fibroma, familial gigantiform cementoma, fibrous dysplasia, cement-osseous dysplasia, and osteocondroma ⁽⁶⁾. The central type developed from the endosteum enlarges the modular cavity of the bone, leading to bone expansion. For the peripheral type, it grows from the cell of the periodontal ligament and occurs on the soft tissue covering the tooth⁽⁷⁾. Peripheral ossifying fibroma (POF) is common in females and is found frequently in the 1st and 2nd decades of life. The clinical features usually appear as sessile or pedunculated bases; the color is pink like a normal mucosa and sometimes is red, with an usually smooth surface. The previous studies showed that POF has a recurrence rate ranging from 8–20%, which is caused by incomplete removal of the lesion and the inability to avoid risk factors such as plaque or calculus ^(4, 8). At the present, we have reported a recurrence case of POF associated with plaque in a healthy male 25 years old.

Case report:

A 25-year-old male of Laotian nationality came to the Oral Medicine Clinic, Faculty of Dentistry, University of Health Science, with a chief complaint of recurrence of asymptomatic gingival enlargement associated with tooth N;23 for about 2 months. The patient gave a history of having had a surgical excision of gingival in the same area for 4 years in another hospital. Now he found a new lesion that was continuously growing in size. The patient was healthy and had no systemic diseases. An extra-oral examination showed no other abnormalities. An intraoral examination found poor oral hygiene with plaque accumulation. The lesion was covered on the third of the clinical crown of tooth N;23, and it appeared as a nodular base with a smooth surface whose color was reddish, firm on palpation, and easy to bleed on stimulus (fig.1). A panoramic examination appeared non-demarcated in periapical radiolucent in the alveolar region (fig.2). According to clinical and radiographic features, a clinical diagnosis of pyogenic granuloma and peripheral ossifying fibroma was made, and an excisional biopsy was performed. In this case, we had excisional surgery on the lesion and root planning with tooth N;23 to remove the periodontal ligament and periosteal, but we didn't extract tooth N;23 because the patient was not available.

The microscopes showed a trabeculae bone under the epithelium with adjacent fibroblast connective tissue (figs. 3 and 4). Therefore, based on histopathological features, peripheral ossifying fibroma was considered a final diagnosis and we also suggest the patient come to the clinic for follow-up.

Discussion

Peripheral ossifying fibroma (POF) was first explained by Shepherd et al. in 1844 as an alveolar exocytosis, and after that, in 1972, Eversol and Robin proposed the term POF^(7, 9, 10). In the literature, various names have been applied to POF, such as peripheral cemento-ossifying fibroma, ossifying fibro-epithelial polyp, peripheral fibroma with osteogenesis, peripheral fibroma with cementogenesis, peripheral fibroma with calcification, calcifying or ossifying fibroma epulis, and calcifying fibroblastic granuloma. The etiology of POF is not clear but may contribute to a variety of factors caused by irritation, such as plaque, calculus, and dental restorations. The etiology of POF is not clear and may contribute to a variety of factors caused by irritation, such as plaque, calculus, and dental restorations⁽¹¹⁾. In the previous study, the pathogenesis of POF was similar to the pathogenesis of pyogenic granuloma, which POF got calcified, and after that, it originated from an inflammatory hyperplasia in the cell of the periodontal ligament⁽¹²⁾. Therefore, the differential diagnosis between POF, pyogenic granuloma, and fibrous hyperplasia sometimes causes confusion, leading to a mistaken clinical diagnosis. In the present, we reported the POF case, whose clinical features and radiological findings were closely similar to those of pyogenic granuloma. Because this case appeared to be asymptomatic, well-demarcated, pedunculated base, with a smooth surface whose color was reddish, firm on palpation, and easy to bleeding on stimulus, like the same clinical feature of pyogenic granuloma, it was difficult to make a differential diagnosis between these lesions^(5, 13, 14). Furthermore, in the initial state of POF, there may be no change and no correlation with bone destruction in the radiograph, like in the pyogenic granuloma; however, radiopaque calcification can be seen under the radiograph in some cases⁽¹⁵⁻¹⁷⁾. Therefore, a biopsy is important for the differential diagnosis of these lesions since the histopathological features of POF are characterized by fibrous connective tissue and the focal presence of calcification tissue, including: the calcification can be woven or lamellar bone, sometimes surrounding osteoid or trabecular form; cementum-like material that shows as spherical bodies resembling cementum or large cellular round-to-oval eosinophilic bodies; Dystrophic calcifications can range from small clusters of minute basophilic granules or tiny globules to large, solid, irregular masses^(18, 19). The

complete removal of the lesion is also important for preventing recurrence. Previous studies have reported that POF has a higher rate of recurrence than other gingival reactive lesions since it presents a relapse rate ranging from 8 to 20% ^(4, 20). The complete treatment should include the removal of the periodontal ligament, the removal of the periosteum, and root planing. In some cases, extraction of the tooth associated with the lesion is needed to reduce the recurrence of the lesion, which should be closely followed up⁽²¹⁾. In this present case, we treated with excisional surgery and root planning to remove the periodontal ligament and periosteum, but we didn't extract the tooth that was associated with it because the patient was not available. However, we also suggest the patient come to the clinic for follow-up.

Conclusion

Peripheral ossifying fibroma is one of the reactive lesions that commonly affect the gingiva, and it has a closely similar clinical and radiological feature to pyogenic granuloma, making it sometimes difficult to make a differential diagnosis among these lesions. Hence, a biopsy should be performed, and complete treatment is required, including removing the periosteum, periodontal ligament, and tooth that correlate with the lesion to prevent a recurrence

Consent

As per international standards or university standards, patient(s) written consent has been collected and preserved by the author(s).

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Fig.1: Intra-oral examination, the lesion showed nodular base with smooth surface, it is covered on third of the clinical crown of tooth number 23; the color was reddish and has an alveolar bone expansion.

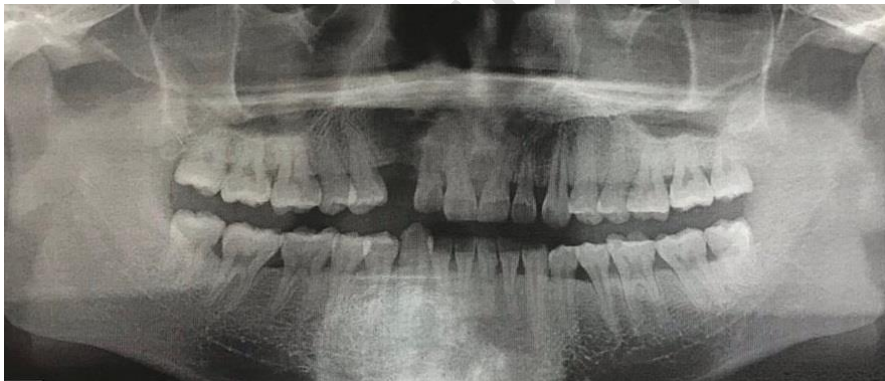


Fig2: Panoramic view: non demarcated in periapical radiolucent in alveolar region

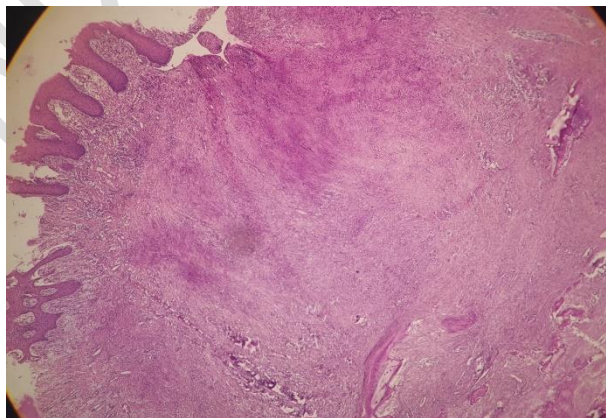


Fig3: Low power microscope of H & E straining of gingival showing bone formation

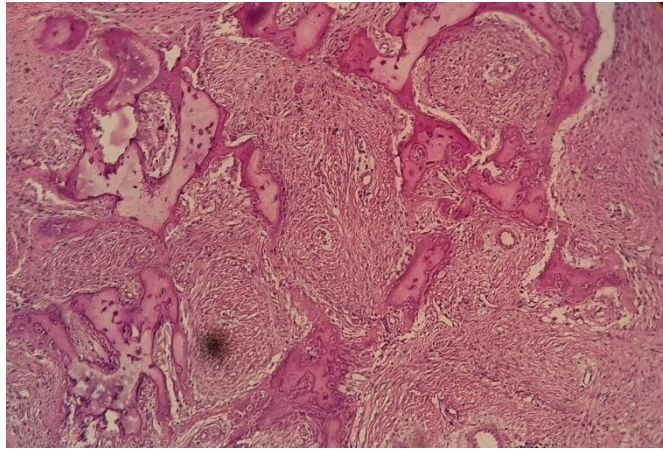


Fig4: High power showing trabeculae of bone with adjacent fibroblast connective tissue