

# Recurrent peripheral ossifying fibroma: Case report

## Nawrotowy obwodowy włókniak kostniejący – opis przypadku

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### Abstract

Most of the reactive lesions in the oral cavity arise from gingiva. Fibroma, focal fibrous hyperplasia, pyogenic granuloma, and peripheral ossifying fibroma are the commonly encountered lesions of gingiva. Peripheral ossifying fibroma (POF) frequently arises from the peripheral tissues like gingiva. It is commonly found in females, mostly in the anterior of the molar region. POF is predicted to arise from the cells of periodontal ligament due to close proximity of gingiva to periodontal ligament. Its exact origin is unclear.

The present article describes the case of recurrent peripheral ossifying fibroma located in the right lower premolar region in a 23-year-old female patient. Clinical, radiographic and histologic features as well as differential diagnosis, treatment and follow-up are discussed in this report. Early diagnosis along with surgical excision and curettage of surrounding tissue is important for the prevention of recurrences. Early conservative management of lesion reduces the risk of progression of lesion, and frequent follow-up visits are required to evaluate for recurrences.

**Key words:** peripheral ossifying fibroma, reactive gingival lesions, recurrent

**Słowa kluczowe:** obwodowy włókniak kostniejący, zapalne zmiany dziąsłowe, nawrotowy

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## Introduction

Gingiva is said to be a common site for localized reactive lesions but not for neoplastic lesions.<sup>1</sup> Peripheral ossifying fibroma (POF) is a reactive lesion of gingiva, which is commonly found in the interdental region. It is usually seen as pale pink to dark red in color, with a smooth or rough surface lying on a pedunculated or broad base by which it adheres to the underlying tissue. It accounts for about 9% of all gingival growths and 2% of all oral tumors.<sup>2</sup> The origin of peripheral ossifying fibroma is unclear. It occurs most commonly in 5–25-year-old patients, females are more susceptible than males.<sup>3</sup> It cannot be clinically separated from pyogenic granuloma.<sup>4</sup>

## Case report

A 23-year-old female patient presented with a chief complaint of swelling in the right lower back teeth region. The patient gave a history of swelling 2 years ago in the same region, and it was excised; the recurrence of swelling was seen 1 week back, and the size was increasing, which was associated with slight pain in that region. No extra oral swelling was seen.

Intraoral examination revealed that there was swelling in the right lower premolar region, which is shown in Fig. 1. Swelling with the size of 6 mm × 5 mm was present interdentially between the right lower first and second premolars on the lingual side. It was reddish pink in color, with a rough surface and well-defined margins, and its consistency was firm and fibrotic on palpation. Swelling extended from the lingual side to the interdental region of both premolars.



Fig. 1. Clinical picture – pre-operative

A radiological examination revealed no evidence of bony involvement in intra oral periapical radiograph (IOPA). Routine blood tests were carried out and were found to be normal.

Scaling and root debridement were performed as phase I therapy. The patient was given an appointment 1 week after phase I therapy for reevaluation. Informed consent was taken before the surgical treatment. Local anesthesia was administered and excision of the lesion was done; the excised tissue was placed in formalin solution and sent for a histopathological evaluation.

A routine histological examination with hematoxylin revealed the presence of parakeratinized stratified squamous epithelium overlying a fibrocellular connective tissue stroma (4× magnification) (Fig. 2). The connective tissue stroma exhibits haphazardly arranged proliferating spindle cells, dystrophic calcifications, mild chronic inflammatory cell infiltrate (mainly lymphocytes), and areas of hemorrhage (40× magnification) (Fig. 3). The diagnosis was suggestive of peripheral ossifying fibroma. In the follow-up period, no recurrence was seen after 5 months after surgical excision (Fig. 4).

## Discussion

POF has been known by various other names, such as peripheral odontogenic fibroma (PODF) with cemento-genesis, peripheral cemento-ossifying fibroma, peripheral fibroma with calcification, peripheral fibroma with osteogenesis, calcifying fibroblastic granuloma, fibrous epulis, etc.<sup>5</sup> The sheer number of names used for fibroblastic gingival lesions indicates that there is much controversy surrounding the classification of these lesions.<sup>6,7</sup>

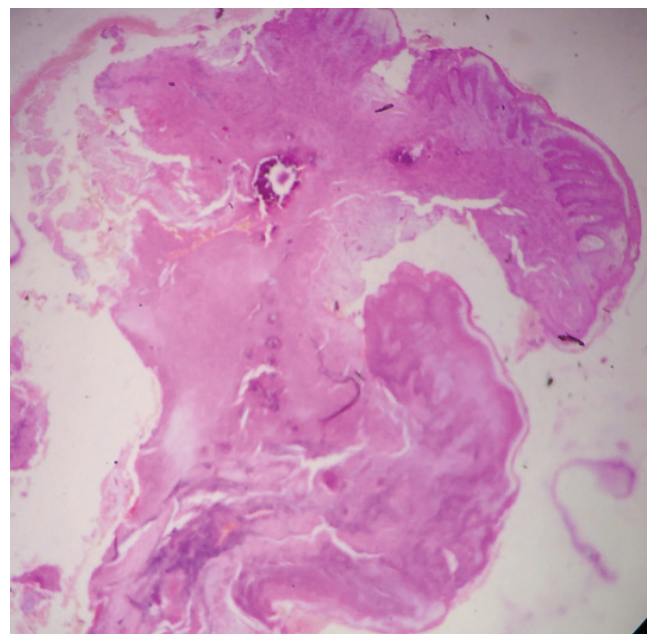


Fig. 2. Histological picture of lesion showing central fibrocellular tissue and overlying epithelium (4× magnification)

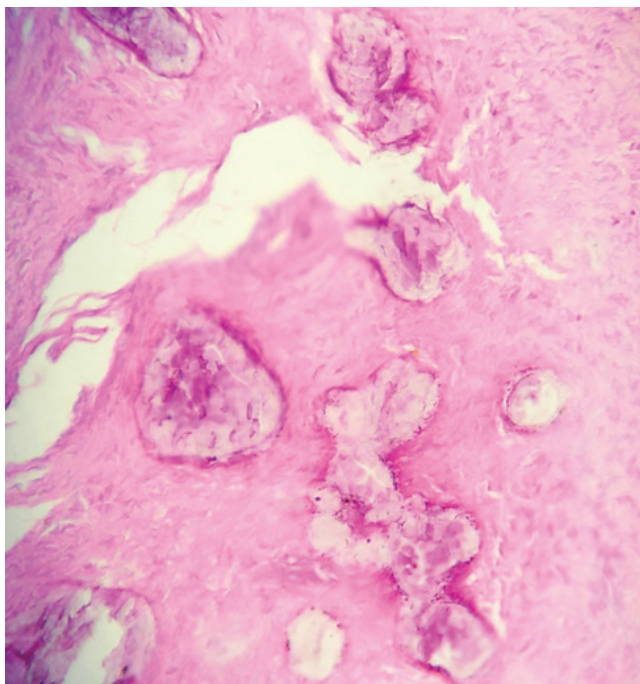


Fig. 3. Histological picture of lesion showing dystrophic calcification (40x magnification)

Maxilla is the common site for POF compared to mandible. About 60% of the lesions occur in maxilla, mostly in the mesial to molars region. Dental plaque, dental calculus, microorganisms, dental appliances, and restorations act as triggering factors for the lesion to occur. The chances of high recurrence (8–20%) for POFs indicate that a careful treatment strategy should be recommended, involving the excision of the entire lesion with surrounding healthy margins and debridement of



Fig. 4. Clinical picture – 5 months post-operative

the underlying bone and tooth.<sup>8,9</sup> The reason behind the recurrence rate of POF is probably due to the remnants of the lesion, persistence of local irritants or repeated injury.<sup>10</sup> POF has to be differentiated from other reactive lesions of gingiva, like pyogenic granuloma, peripheral giant cell granuloma (PGCG) and peripheral odontogenic fibroma.<sup>11,12</sup> The differentiation of POF has to be done on histological and sometimes by radiographic basis. Pyogenic granuloma presents as an erythematous overgrowth with surface ulceration. It has a tendency to easily bleed clinically. Microscopically it exhibits vascular proliferation resembling granulation tissue. PGCG can be differentiated by histological appearance, which shows scattered giant cells in a fibrous stroma. Peripheral odontogenic fibroma shows prominent islands of odontogenic epithelium in the histological picture. Though not significant in most of the cases, some alterations in bones are noted, like foci of calcifications, bony erosion, widening of the periodontal ligament space, and thickened lamina dura. Alteration in teeth position due to interdental bone loss is also seen.

The basic microscopic pattern of the POF is fibrous proliferation associated with different types of mineralized components.<sup>13</sup> The content of mineralized components varies from 23% to 75%. Butcher and Hansen reported 3 types of components in POF: bone (woven/lamellar), dystrophic calcifications, cementum.<sup>3</sup> In the present case, a histological examination revealed fibrocellular component with a mineral component as dystrophic calcification.

## Conclusions

In the initial stages of lesion development, it is difficult to differentiate clinically a particular lesion. For confirmation, a histological examination has to be conducted. Even though the etiology is unclear, poor oral hygiene could be a predisposing factor in peripheral ossifying fibroma and the tissue has to be examined. Early diagnosis and conservative management is important in such lesions, since they can become more destructive over time if not treated. A regular follow-up is required after excision due to high growth potential of the lesion (8%–20% recurrence rate).<sup>14</sup>

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