

Recurrence of Peripheral Ossifying Fibroma: A Case Report

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ABSTRACT

The peripheral cement-ossifying fibroma is a reactive gingival overgrowth occurring mostly in the maxillary anterior region in young adults predominantly affecting women, with greater prevalence at 28 years. It originates from the cells of the periodontal ligament. The final diagnosis is established by histological examination, which reveals the presence of cellular connective tissue with focal calcifications. Here, we report a case of Peripheral cemento-ossifying fibroma that discusses clinical, radiographical and histological features of a Peripheral cemento-ossifying fibroma which showed recurrence after a period of 2 years.

KEYWORDS: Gingiva, Peripheral ossifying fibroma, Calcifications, Gingival hyperplasia

INTRODUCTION

Peripheral cemento ossifying fibroma (PCOF) is a non-neoplastic enlargement of the gingiva that is classified as a reactive hyperplastic inflammatory lesion. Shepherd first reported POF in 1844 as alveolar exostosis.¹ In 1872, Menzel first described ossifying fibroma, but only in 1927 Montgomery² assigned its terminology. Ossifying fibroma with calcification, ossifying fibroma epulis, and calcifying fibroma are other terms used for peripheral ossifying fibroma.³

Peripheral cemento ossifying fibroma (PCOF) is a reactive gingival lesion, first described by Eversole and Rovin in 1972.⁴ These lesions may arise as a result of irritants such as trauma, microorganisms, plaque, calculus, dental restorations and dental appliances. Peripheral cemento-ossifying fibroma (PCOF) is a rare lesion with variable expressions. Peripheral cemento-ossifying fibroma accounts for 3.1% of all oral tumors and 9.6% of gingival lesions. A peak incidence of occurrence is seen between the second and third decade's Average age being around 28 years and women being affected more than men (5:1).⁵ The lesions are commonly seen in the gingiva anterior to the molars and in the maxilla. Clinically, it is seen as a well-defined and slow-growing gingival mass measuring less than 2 cm in size and located in the interdental papilla region. The base may be sessile or pedunculated, the color is similar to gingiva or slightly reddish and the surface may appear ulcerated.⁶

However, it has not been established whether POF is a tumor or represents a proliferation of a reactive nature. Surgical excision is the treatment of choice, though the recurrence rate can reach 20%. POF shows a clinically benign behavior.⁷

The present case report describes a case of recurrence of PCOF after 2 years.

CASE REPORT

A 24 year old systemically healthy female patient reported to Department of Periodontology, Sinhgad Dental College and Hospital, Pune, with the complaint of gingival growth on palatal aspect of upper left back region of jaw since 2 to 3 months.

Intra-oral examination revealed relatively healthy periodontium except on palatal aspect between maxillary left second premolar and first molar showed presence of a smooth, solitary, pedunculated, reddish pink exophytic gingival growth measuring about 1 cm × 2 cm. The lesion was firm in consistency and non-tender on palpation with smooth surface. As reported by the patient, the gingival growth was interfering during chewing and hence was uncomfortable (Figure 1).



Figure 1: Pre operative clinical photograph

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Patient gave a history of a similar kind of overgrowth in the same region 2 years back, which was surgically excised and was diagnosed to be peripheral ossifying fibroma. A thorough scaling and root planning was done, oral hygiene instructions were given. No abnormality was detected on intra periapical radiographs. Patient was re-evaluated after three weeks. The lesion was persistent and showed a slight reduction in size with the reduction in inflammation. Hematological investigations were within normal limits.

Clinically, the differential diagnosis included pyogenic granuloma, peripheral ossifying fibroma and peripheral giant cell granuloma. The lesion was surgically excised under local anesthesia (Lignocaine 2% with 1:100000 adrenaline). Excised tissue was sent for histopathological investigation after fixation in 10% formalin. Patient was recalled every six month for a period of 3 years (Figure 2).



Figure 2: 3 years post operative clinical photograph.

Histopathology: The studied H & E stains section shows para-keratinized stratified squamous epithelium with areas of ulceration. Beneath the ulcerated area, connective tissue was hypercellular. Plump spindle cells are seen interspersed with vascular spaces and with multiple foci of dystrophic calcifications. The connective tissue in non-ulcerated area shows moderate chronic inflammatory infiltrate. All features were suggestive of peripheral ossifying fibroma (Figure 3, Figure 4).

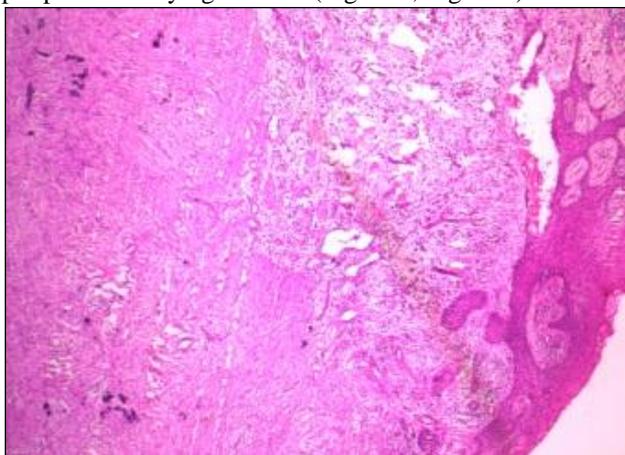


Figure 3: Photomicrograph of lesion showing parakeratinized stratified squamous epithelium with hypercellular connective tissue and multiple foci of dystrophic calcification (Hematoxylin and Eosin stain, 4x).

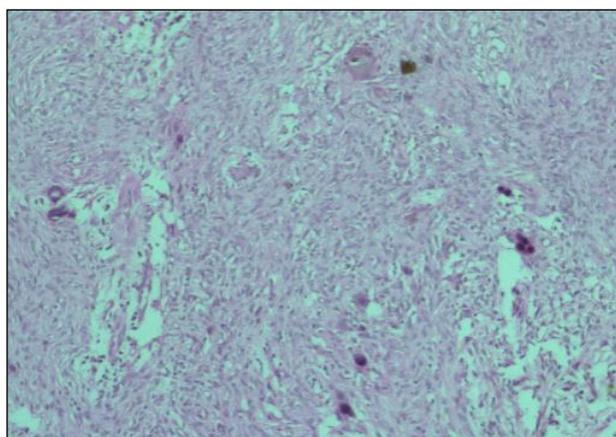


Fig 4: Photomicrograph of lesion showing hypercellular connective tissue and multiple foci of dystrophic calcification (Yellow arrow) (Hematoxylin and Eosin stain, 10x).

DISCUSSION

Local factors such, as plaque and calculus are relatively common cause for occurrences of localized reactive or inflammatory lesions in the oral cavity.⁸ Gingiva is one of those anatomical regions in the oral cavity with the broadest array of lesions occurring ranging from inflammatory to neoplastic lesions. PCOF is one such reactive lesion occurring exclusively on the gingiva and accounting for 9.6% of the gingival lesions.¹ Although the etiopathogenesis of PCOF is uncertain some investigators consider it a neoplastic process, whereas other argue it is a reactive process; however, in either case, the lesion is thought to arise from the cells of the periodontal ligament due to trauma or local irritants such as by dental plaque, microorganisms, masticatory forces, ill-fitting and poor quality dentures.⁷

Eversole and Rovin stated that the constant irritation present during exfoliation of the deciduous teeth and eruption of the permanent teeth may also result in an increased incidence of reactive lesions, which originate from the periodontal ligament.⁴ This hypothesis is based on the fact that POFs arise exclusively on the gingiva, the subsequent proximity of the gingiva to the periodontal ligament, and the inverse correlation between age distribution of patients presenting with POF and the number of missing teeth with associated periodontal ligament.⁹ The present case was occurring in female patient which indicate that hormones may have probably influence in higher incidence in female population.⁵ No changes on radiographs are seen in present case which is most common finding in the literature but in rarely erosion of bone has been reported in literature.¹⁰

Due to the high rate of recurrence (8% to 20%), close postoperative monitoring is required in all cases of POF. POF recurs due to 1) the incomplete removal of the lesion, 2) the failure to eliminate local irritants and 3) difficulty in accessing the lesion during surgical manipulation as a result of the intricate location of the lesion (usually an interdental area).¹¹ In the present case, complete excision of the lesion along with healthy margins was done. This was followed by thorough

debridement of underlying bone and tooth which was similar to treatment protocol followed by Horwithz J et al.¹² In the present case no erosion of underlying bone was seen which is similar to finding of Mishra Ak et al.⁵ Due to thorough debridement and complete excision of lesion there is probably no recurrence occurring till 3years follow-up. The case is still under follow up for long-term evaluation.

CONCLUSION

A peripheral cemento-ossifying fibroma is a slowly progressing lesion with limited growth. Many cases will progress for long periods before patients seek treatment, because of the lack of symptoms associated with the lesion. Treatment consists of surgical excision, including the periosteum and scaling of the adjacent teeth. Close postoperative follow-up is required due to its high rate of recurrence.

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