Case Report

Peripheral Ossifying Fibroma- A Case Report and Review of Literature

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Abstract:
Peripheral ossifying fibroma is a relatively uncommon, solitary, non-neoplastic lesion, predominantly seen in gingiva. Exuberant connective tissue response to chronic irritation due to plaque, calculus, restorative or orthodontic appliances are thought to be responsible for the initiation of the lesion. Moreover, persistent irritation can cause metaplasia of the mesenchymal cells resulting in calcifications. The diagnosis is often challenging as the lesion masquerade as other reactive lesions of gingiva. Lesion is usually treated by complete surgical excision. However, meticulous follow-up is essential because of the recurrence rates varying from 8 to 20%. Here we report a case of peripheral ossifying fibroma in a 52-year-old female patient on the maxillary anterior gingiva.
Key words: Peripheral ossifying Fibroma, Gingiva.

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Introduction

Peripheral ossifying fibroma (POF) is a reactive lesion of the oral cavity, usually seen in the gingiva.[1] As POF occurs usually in the gingiva which is close to the periodontal ligament, origin is thought to be from the periodontal ligament (PDL). However POF is not a counterpart of the central ossifying fibroma but a reactive lesion of the gingiva. POF is commonly seen in the second decade of life, with increased predilection in incisor-cuspid region of the maxillary arch. It is reported more commonly seen in females. POF appears as a slow growing solitary mass which is usually sessile with a smooth or ulcerated surface. Adjacent teeth are usually unaffected but in some cases migration, mobility and delay in eruption of permanent teeth may occur.[2] Lesions range from 1-2 cm in diameter. In this paper, we present a case of a 52-year-old female patient who reported with nodular growth in the maxillary anterior region.

Case Report

A 52-year-old female patient reported to the Department of Oral Medicine and Radiology, Rajah Muthiah Dental College, Annamalai University, Chidambaram, Tamil Nadu with the chief complaint of

painless swelling in the maxillary anterior gingiva for the past 5 months. According to the patient, the swelling was of gradual in onset, smaller in size initially, which gradually progressed to present size. It was not associated with pain or discharge. Medical, dental and family history was non-contributory. She gave a history of chewing betel quid since 10 years with a frequency of 4 to 5 times per day. Her vital signs were within normal limits.

On extra oral examination, left submandibular lymph nodes were palpable and elicited tenderness, firm consistency and mobility. On intra oral examination, a single well defined swelling was present on the attached gingiva in relation to 11 and 12. The swelling measured approximately 3 × 4 cm in size, roughly oval in shape and was sessile. Mucosa over the swelling appears smooth with no secondary changes. (Figure 1) On palpation, the swelling was firm in consistency and non-tender.

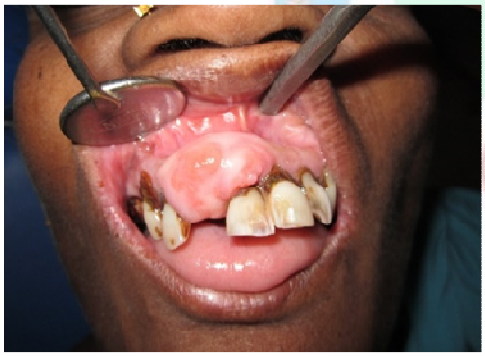

Figure 1: Intra oral view of maxilla (frontal view) of the lesion

The intraoral periapical radiograph, maxillary occlusal radiograph showed a radiodense shadow of the swelling in the alveolus between 11 and 12, blending gradually with the adjacent alveolar bone. Displacement of 11 and 12 are seen. Reports of routine blood investigations were normal. (Figure 2)

Based on the history, clinical examination and investigations the case was provisionally diagnosed as peripheral ossifying fibroma. The differential diagnosis considered were Peripheral giant cell granuloma, Pyogenic granuloma, Osteoma and Adenomatoid odontogenic tumor.

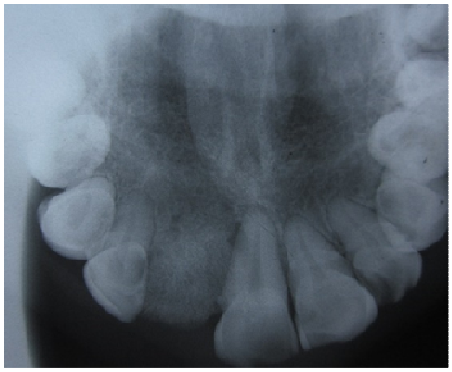

Figure 2: Intra oral view of maxilla (occlusal view) of the lesion

An incisional biopsy was performed and specimen was sent for histopathological investigation. The hematoxylin-eosin stained sections showed dense fibrous connective tissue with mature collagen bundles and numerous trabaculae of bone. Blood vessels and inflammatory cells are minimally noted. The surface shows stratified squamous epithelium. These findings were suggestive of peripheral ossifying fibroma.

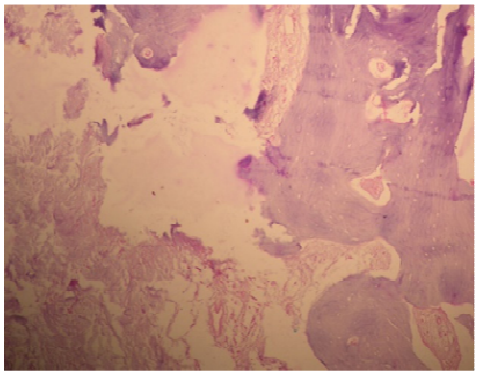

Figure 4: Histopathological view

Wide surgical removal of the lesion done under general anaesthesia. Follow up every month for 1 year ruled out any signs of recurrence.

Discussion

Peripheral ossifying fibroma (POF) is a reactive growth of the oral cavity seen in the gingiva. Menzel first described the lesion ossifying fibroma in 1872, but its terminology was given by Montgomery in 1927. Two types of ossifying fibroma have been cited, the central and the peripheral. However POF is not a counterpart of the central ossifying fibroma but a reactive lesion of the gingiva. Eversol and Rovin were the first to describe the lesion POF as a relatively uncommon, solitary, non-neoplastic gingival growth. This entity was first reported as 'alveolar exostosis' in 1844 by Shepherd. Various terminologies like peripheral odontogenic fibroma, peripheral cemento-ossifying fibroma, ossifying fibroepithelial polyp, and calcifying fibroblastic granuloma have been used to describe this lesion.[3] [4]

Though the etiopathogenesis of peripheral ossifying fibroma is uncertain, an origin from cells of the periodontal ligament has been suggested. Excessive proliferation of mature fibrous connective tissue occurs as a response to gingival injury, gingival irritation, subgingival calculus or a foreign body in the gingival sulcus. Chronic irritation of the periosteal and periodontal membranes causes metaplasia of the connective tissue and resultant initiation of formation of bone or dystrophic calcification. It has also been suggested that the lesion may be caused by fibrosis of the granulation tissue.[5][6]

Radiographically, POF may not show significant changes in certain cases. However, some cases show varying radiodensity within the lesion, depending upon the degree of mineralization. Superficial bone loss, cupping defect and focal areas calcification have been reported. Additional investigations like computed tomography (CT) and magnetic resonance imaging (MRI) are also helpful in larger lesions.[6][7]

Histologically, POF appears as a non-capsulated fibrous connective tissue with stratified squamous epithelium which is ulcerated in most of the cases. Endothelial proliferation can be more in areas of ulceration misleading it to the diagnosis of pyogenic granuloma. Fibroblastic proliferation with mineralized component varying from bone or cementum like material or dystrophic calcifications, few endothelial proliferation and few inflammatory cells is the usual presentation of POF.[8][9]

Treatment includes local surgical excision and oral prophylaxis. Follow-up is essential because of the recurrence rates varying from 8 to 20%. Recurrence is due to incomplete excision, inadequate periodontal management (root planning and curettage) and or persistence of local factors.[9]

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