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Peripheral ossifying fibroma –A case report with review of literature

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Abstract

Peripheral ossifying fibroma (POF) is a reactive gingival over growth, occurring frequently in the maxillary anterior region of young females. Peripheral ossifying fibroma is supposed to be originating from periosteum and/or periodontal ligament. A large number of factors have been implicated in the pathogenesis of PCOF, which includes trauma, local irritation, calculus and hormonal disturbances. The definitive diagnosis of POF is based upon its clinical, radiological and histological features. Because of the high recurrence rate (8-20%) of POF, a close post-operative follow-up is required. Herewith, we are presenting a case of POF in 45 year old female patient at an uncommon location

Keywords: Peripheral, Fibroma, Ossifying, Gingiva

Introduction

Gingival tissues are highly susceptible to changes in the form of reactive and neoplastic lesions.[1] Reactive lesions of gingiva are clinically more common benign lesions and histologically non-neoplastic nodular swellings that develop in response to chronic and recurring tissue injury which stimulates an exuberant tissue response. These mainly include focal fibrous hyperplasia, pyogenic granuloma, peripheral ossifying fibroma (POF), and peripheral giant cell granuloma. Clinically, these lesions mimic various groups of pathologic processes and therefore often present a diagnostic challenge[2] Peripheral Ossifying Fibroma (POF) is defined as a well demarcated and occasionally encapsulated lesion consisting of fibrous tissue containing variable amounts of mineralized material resembling bone (ossifying fibroma)[3]. It is considered to be the soft tissue counterpart to central ossifying fibroma. POF has been cited in the literature under various names such as cementoossifying fibroma, peripheral fibroma with osteogenesis,peripheral odontogenic fibroma, calcifying fibroblastic granuloma[4]. The present report describes a case of POF in a 45 year old female patient.

Case Report

A 45 year old female patient reported to the outpatient department with a chief complaint of a mass in upper front tooth region since two years. The medical history was not contributory. The lesion started as a small painless nodule above the gingiva in relation to upper front teeth and gradually increased in size with no history of bleeding, parasthesia and pain. Intra-oral clinical examination revealed a well defined exophytic growth in relation to attached and marginal gingiva of 21 region, measuring approximately 2x2 cm in diameter, extending mesiodistally from mesial aspect of 11 to distal aspect of 21 and superior inferiorly from 1 cm below the labial sulcus, involving marginal gingiva in relation to 21 (Fig 1). The overlying mucosa was pale pink in colour, showing no secondary changes. On palpation the inspectory findings were confirmed. The mass was firm in consistency, pedunculated, nontender. Considering history and clinical features, a provisional diagnosis of POF was given. The list of differential diagnosis included fibrous epulis, peripheral giant cell granuloma, pyogenic granuloma and peripheral odontogenic fibroma. The investigatory work up included complete hemogram, intra oral radiograph and excisional biopsy of the lesion. Routine haematological investigation values were found to be within normal limits. Intraoral periapical radiographic view showed a radiopacity in 21 region. The excisional biopsy was performed under local anaesthesia and H&E stained section revealed parakeratinized stratified squamous epithelium with elongated rete ridges. Irregular multiple foci of homogenous calcified areas were evident within the connective tissue (Fig 2). Patient was kept under follow up and healing post excision in that area was satisfactory(Fig 3). Thus, a final diagnosis of POF was given.

Discussion

Ossifying fibroma was first described by Menzel in 1872. Ossifying fibroma is categorized into two types: Central and peripheral. The central variant originates from the endosteum or the periodontal ligament (PDL) adjacent to the root apex and expands within the medullary cavity of the bone while the peripheral variant occurs on the soft tissues overlying the alveolar process.[5,6]. Bhasker et al in 1984 described this lesion as peripheral fibroma with calcification and the term POF was coined by Eversole and Robin.[7]

The evidence for its odontogenic origin is circumstantial, being based partly on the demonstration of oxytalan fibers within its calcified structures and its exclusive occurrence on gingiva.[8]

The etiopathogenesis of POF is unclear, trauma or local irritants such as subgingival plaque and calculus, dental appliances, poor-quality dental restorations, food lodgement and iatrogenic factors all influence the development of the lesion. POF may initially develop as pyogenic granuloma that undergoes subsequent fibrous maturation and calcification. It represents the progressive stage of the same spectrum of pathosis.[9]. Also,POF can develop due to inflammatory hyperplasia of cells of PDL/ periosteum. Metaplasia of the connective tissue leads to dystrophic calcification and bone formation.

POF is believed to comprise about 2–3% of all oral tumors[10] and 9–9.6% of all gingival growths. POF occurs 2-4 times more frequently in females than in males between the age of 25-35 years. Few cases in the elderly have been reported to the date, for example studies by Bhasinet al (11), Dalghous et al (12). In the present case, the patient was 45 year old female and the lesion occurred in maxillary anterior region. Plaque and calculus along with hormonal influences due to the patient's age and sex might have been the cause for the gingival growth. In this

regards, exposure of inflamed gingiva to progesterone and estrogen from saliva and blood stream is thought to be a contributory factor (12).

The lesions of POF are usually less than 1.5-2 cm in diameter, but have been known to grow to larger sizes. Kfir et al. reported that the size of the POF is usually smaller than 1.5 cm in diameter.[13] However, a case of giant POF measuring 9 cm has been reported in the literature.14

POF can cause resorption of the alveolar crest and separation of adjacent teeth with pathologic migration,both of which were not seen in the present case. Histopathologically, POF, can exhibit either an intact or ulcerated stratified squamous epithelium. The deeper fibroblastic component is highly cellular with central areas of calcification. The mineralized tissue may consist of bone, cementum like material, dystrophic calcification, or a combination of each [15]

Treatment of POF consists of elimination of etiological factors, scaling of adjacent teeth and total aggressive surgical excision along with involved periodontal ligament and periosteum to minimize the possibility of recurrence. Long term postoperative follow-up is extremely

important because of the high growth potential of incompletely removed lesion and a relatively high recurrence rate of approximately 20%.POF clinically resembles as pyogenic granuloma, peripheral giant cell granuloma or odontogenic tumours, so radiographic and histopathological examination is essential for accurate diagnosis.[15]

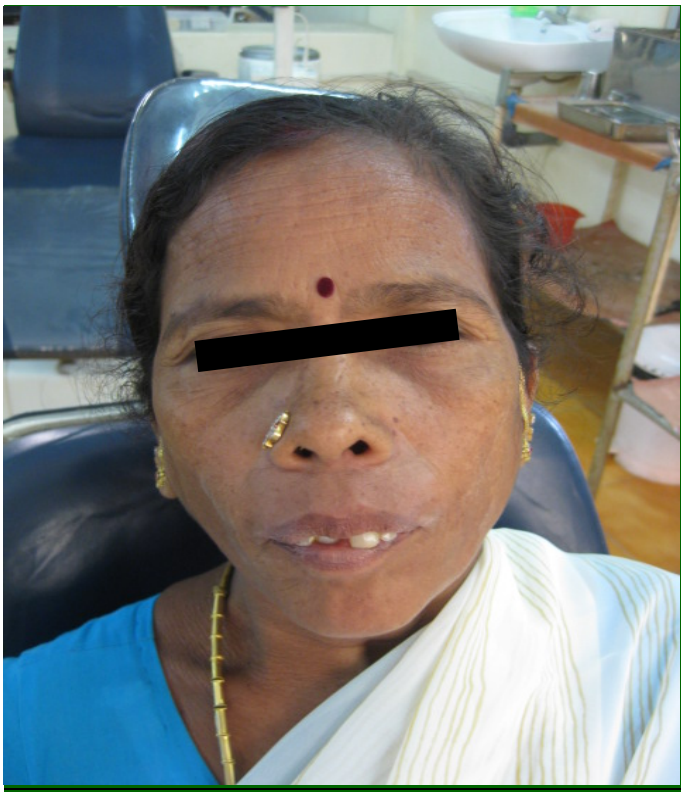

Fig.1 : Showing profile picture of the patient

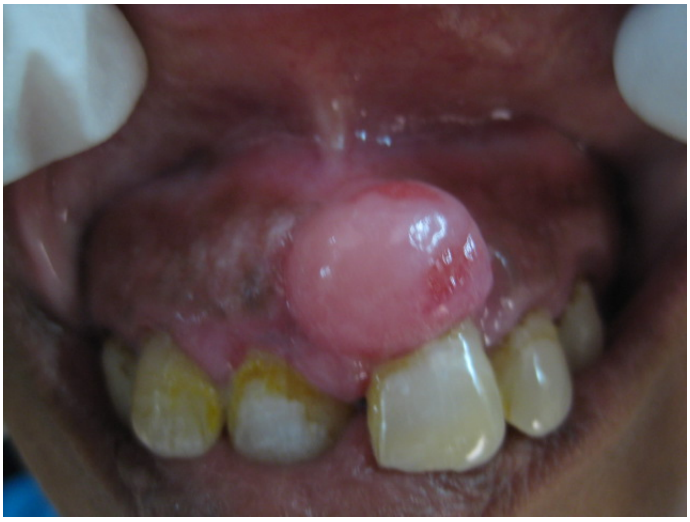

Fig 2: Showing the lesion

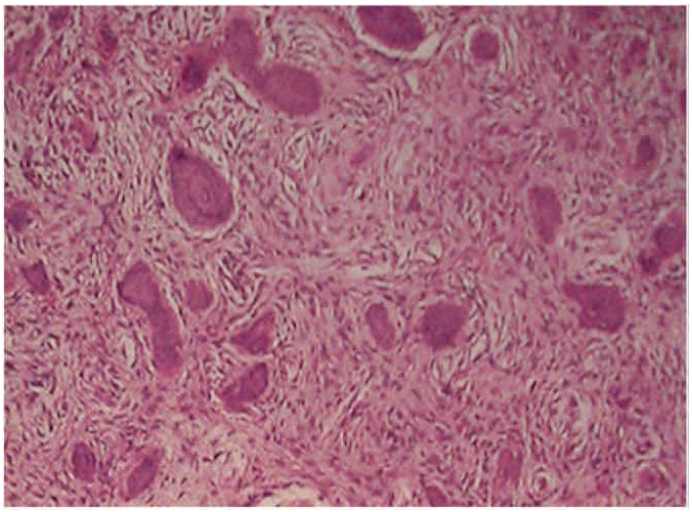

Fig. 3: Photomicrograph showing multiple foci of calcifications in the connective tissue.

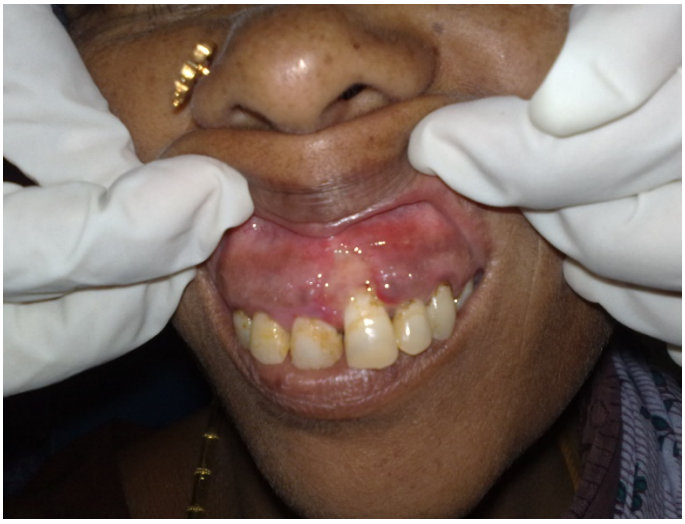

Fig 4: Showing postoperative photograph showing healing of the surgical site

References

1. Nikita N. Burde1, Sneha B. Gade2, Prabhdeep Kour3Peripheral ossifying fibroma: A series of four cases Journal of Advanced Clinical & Research Insights (2019), 5, 126–130
2. Kapoor H, Arora R. A massive peripheral ossifying fibroma-uncommon presentation of a common lesion. Oral Health Dent Manage 2014;13:940-4.
3. Srividhya Srinivasan, Malavika R, Maheshwari Harinath Babu Peripheral Ossifying Fibroma- A case report International Journal of Histopathological Interpretation 2014;5: 13-14
4. Walters JD, Will JK, Hatfield RD,Cacchillo DA,Raabe DA. Excision and repair of the peripheral ossi ossifying fibroma: A report of 3 cases. J Periodontol 2001;Ê72:939- 44.
5. Hegde U, Nagpal B, Archana S, Shetty SK, Guledgud MV. Peripheral ossifying fibroma: Reactive or neoplastic lesion? Int J Adv Res 2015;3:1566-70.
6. Mariano RC, Oliveira MR, Silva AD, Almeida OP. Large peripheral ossifying fibroma: Clinical, histological, and immunohistochemistry aspects. A case report. Rev Esp Cir Oral Maxilofac 2017;39:28-49.
7. Kumar SKS, Ram S, Jorgensen MG, Shuler CF, Sedghizadeh PP. Multicentric Peripheral Ossifying Fibroma: A Case Report. J Oral Sci 2006;48:239-243.
8. Poonacha KS, Shigli AL, Shirol D. Peripheral ossifying fibroma: A clinical report. Contemp Clin Dent 2010;1:54-6.
9. Keluskar V, et al. Peripheral Ossifying Fibroma. Journal of Indian Academy of Oral Medicine and Radiology 2008;20:54-56.
10. Bhaskar SN, Jacoway JR. Peripheral fibroma and peripheral fibroma with calcification: Report of 376 cases. J Am Dent Assoc 1966;73:1312-20.
11. Bhasin M., Bhasin V., Bhasin A. Peripheral ossifying fibroma. Case Rep Dent 2013; 1-3.
12. Dalghous A., Alkhabuli J. O. Cementoossifying fibroma occurring in an elderly patient. A case report and a review of literature. Libyan J Med. 2007; 2: 95-8.
13. Kfir Y, Buchner A, Hansen LS. Reactive lesions of the gingiva. A clinicopathological study of 741 cases. J Periodontol 1980;51:655.

14. Poon CK, Kwan PC, Chao SY. Giant peripheral ossifying fibroma of the maxilla: report of a case. J Oral MaxillofacSurg 1995;53:695-8.
15. Prasad S, Reddy SB, Patil SR, Kalburgi NB, Puranik RS. PeripheralOssifying Fibroma and Pyogenic Granuloma are they interrelated? NY State Dent J 2008;74:50-2.