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CASE REPORT

NON-SYNDROMIC PERIPHERAL OSSIFYING FIBROMA: A CASE REPORT

***Anuradha Sharma, MDS., Ankit Gaur, MDS. and Pooja Siwach, MDS.**

Director, Periodontics and Oral Implantology, Gaur's Multispeciality Dental Care, Karnal, Haryana, India.
Dental Surgeon, Conservative Dentistry and Endodontics, University Health Centre, Kurukshetra University, Kurukshetra, Haryana, India.
Assistant Professor, Oral Pathology, Department of Dentistry, Government Medical College and General Hospital, Dhule, Maharashtra, India

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ABSTRACT

The Peripheral ossifying fibroma (POF), term coined by Eversole and Robin is relatively a common overgrowth which occurs exclusively on gingiva, usually arising from the interdental papilla and is considered to be reactive rather than neoplastic in nature. An origin from cells of periodontal ligament has been suggested because of exclusive occurrence of POF from interdental papilla. Because it is possible to misdiagnose POF as pyogenic granuloma, peripheral giant cell granuloma, or odontogenic tumours, therefore, histopathological examination is essential for accurate diagnosis. This paper presents a case of peripheral ossifying fibroma in a 32-year-old female involving left lower gingiva (extending buccally from mesial surface of mandibular canine to mid surface of 1st premolar) along with the clinical, histopathologic, and radiographic features and treatment details. Postoperative follow up did not show any signs of recurrence.

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INTRODUCTION

In 1872, Menzel first described the ossifying fibroma, but only in 1927, did Montgomery assign its terminology (Eversole *et al.,* 1972). Peripheral ossifying fiboma (POF) is a focal, reactive, non-neoplastic benign tumor like growth of the soft tissue that often arises from the interdental papilla (Farquhar *et al.,* 2008). It accounts for 3.1% of all oral tumors and for 9.6% of gingival lesions (Kenney *et al.,* 1989; Walters *et al.,* 2001).The etiopathogenesis of this tumor is unknown; however, the pluripotent cells of the periodontal ligament have the ability to differentate into osteoblasts, cementoblasts or fibroblasts, in response to irritants such as calculus, bacterial plaque, orthodontic appliances, ill- adapted crowns, and irregular restorations, and are therefore, capable of producing a unique inflammatory hyperplasia, the peripheral ossifying fibroma (Kumar *et al.,* 2006). About 60% of such lesions occur in the maxilla and more than 50% of all cases affect the region of the incisors and canines; more precisely in the interdental papilla (Kendrick *et al.,* 1996). It occurs predominantly in the second decade of life, typically measures less than 1.5 cm in diameter, is commonly ulcerated and/or pink to red in color, and normally appears as a solitary and slow-growing nodular mass that can be either pedunculated or sessile (Canger *et al.,* 2004). Presentation of POF as a solitary lesion is quite common, in this report we present a case of POF in a 32 year old female, affecting lower left gingiva on both buccal and lingual sides, causing displacement of adjacent teeth.

Case Presentation: A healthy 32 year old female with a chief complaint of gingival overgrowth in lower left posterior region of jaw, which she noticed 5 months back in lower jaw. She stated that the lesion had started as a small papule in the interdental region between canine and first premolar, which has gradually increased to present size. There was no associated history of bleeding or pain. His medical history was non-significant and no h/o any medication at that time. On intraoral examination, a solitary, pedunculated, pale pink exophytic growth, measuring about 1.5 cm × 1.5 cm was seen extending from mesial aspect of the mandibular left canine up to the middle aspect of mandibular left first premolar [Figure 1]. The growth had lobulated surface. There was separation between adjacent teeth along with rotation of first premolar due to growth. The growth was firm in consistency and non-tender on palpation. Radiographically, there was no evidence of bone loss or bone expansion.

****Corresponding author: Anuradha Sharma, MDS***
Director, Periodontics and Oral Implantology, Gaur's Multispeciality Dental Care, Karnal, Haryana, India.

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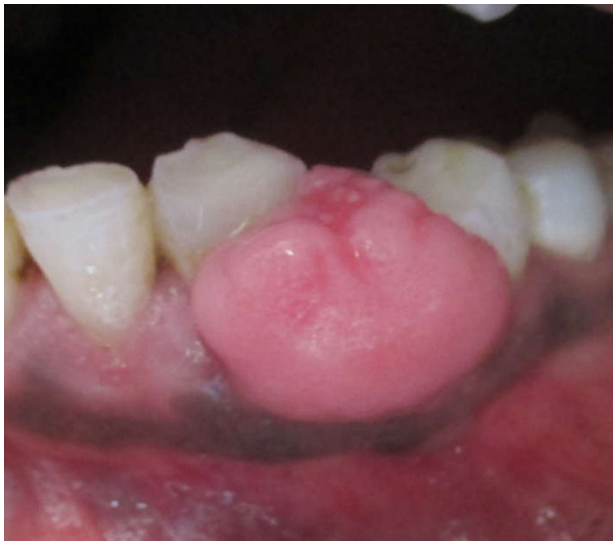

Figure 1: Intraoral swelling in relation to the left lower canine and first premolar

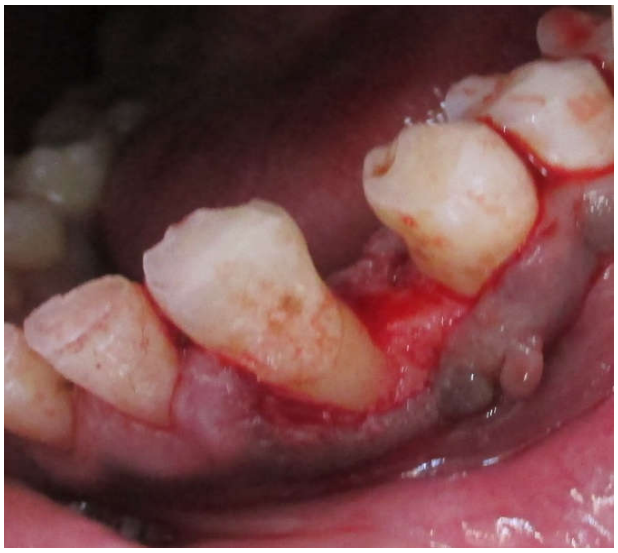

Figure 2: Intraoral view after excision

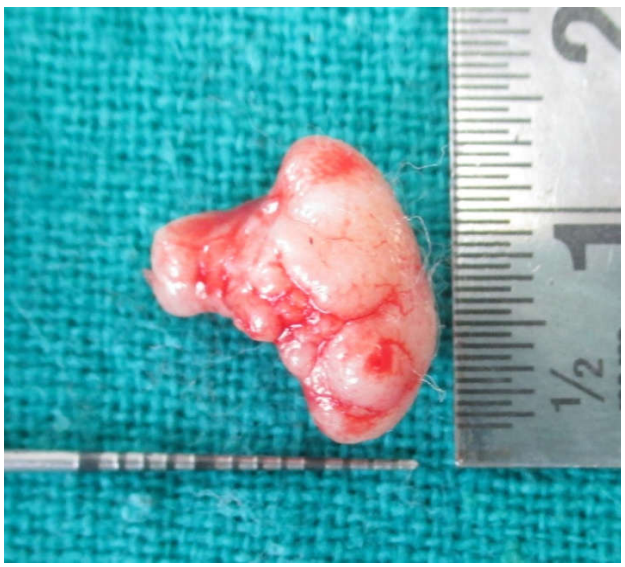

Figure 3: Excised tissue specimen

The differential diagnosis included irritation fibroma, pyogenic granuloma and POF. Based on the clinical and radiographic findings, the provisional diagnosis of irritation fibroma was made. The periodontal treatment plan included patient education and motivation for oral hygiene instructions, scaling and root planing, reevaluation and surgical excision of the lesion under local anesthesia. Scaling and root planing was performed for elimination of local etiological factors. After 1 week of scaling and root planing, a reevaluation and surgical excision along with bone curettage was performed [Figure 2]. Lesion was separated from the adjacent tissue by blunt dissection and removed in one piece [Figure 3]. Sutures and periodontal dressing were placed. Patient was given post-operative instructions and was prescribed with analgesic (tablet ibuprofen-400 mg tds every 4-6 h as needed for pain) and antimicrobial rinse (0.2% chlorhexidine gluconate twice-a-day for 1 week). She was recalled, after 1 week for follow-up. The excised tissue was placed in 10% neutral buffered formalin and sent for the histopathologic examination. Histopathological examination- It showed overlying nonkeratinized stratified squamous epithelium with underlying connective tissue that exhibited abundant degree of cellularity, few areas showed aggregates of plump cells with attempt of matrix formation but no bone/osteiod was formed. Stroma showed extravasated blood and endothelial proliferation suggestive of POF [Figure 4]. Following excision, patient maintained regular follow up visits at 3 month interval and a 12 month re‑evaluation showed no recurrence of the lesion. Recovery was uneventful with a satisfactory healing.

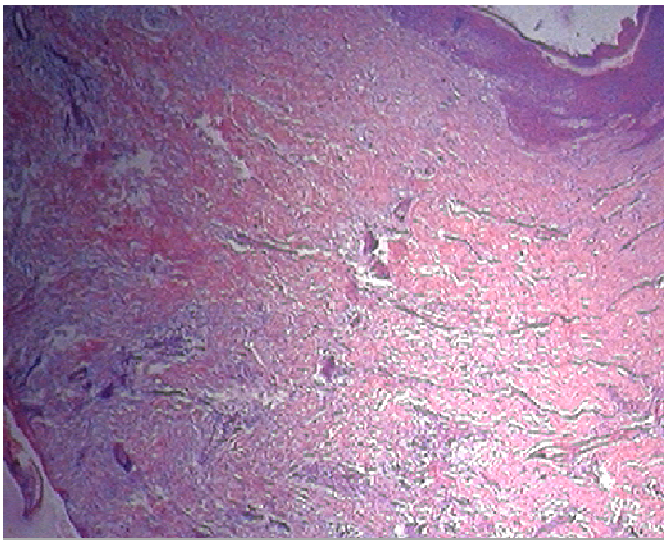

Figure 4: Histopathological section of the lesion

DISCUSSION

POF has been given many synonyms, such as, Calcifying fibroblastic granuloma, Peripheral cementifying fibroma, Peripheral fibroma with cementogenesis, Peripheral cemento-ossifying fibroma, Ossifying fibroepithelial polyp and Peripheral fibroma with osteogenesis (Farquhar *et al.,* 2008; Kumar *et al.,* 2006). POF, term coined by Eversole and Robin is relatively a common overgrowth which occur exclusively on gingiva, usually arising from the interdental papilla and is considered to be reactive rather than neoplastic in nature (Eversole and Rovin, 1972). An origin from cells of periodontal ligament has been suggested because of exclusive occurrence of POF from interdental papilla (Gardner, 1982), Considered to originate from the cells of the periodontal ligament (Carrera Grañó *et al.,* 2001), the presence of oxytalan fibres within the mineralized matrix of some lesions, and the

fibro cellular response similar to other reactive gingival lesions of periodontal ligament origin (Kumar *et al.,* 2006; Feller *et al.,* 2004). It has been found to occur at any age group and usually seen as a solitary, isolated, nodular mass and can be either sessile or pedunculated (Neville *et al.,* 2002). POF very commonly occur as a solitary lesion but rare to be found as multicentric lesion (Walters *et al.,* 2001; Kumar *et al.,* 2006). POF occurs 2-4 times more frequently in females (Eversole *et al.*, 1972) than in males between the age of 25 and 35 years. Approximately 60% of POFs occur in the maxilla and they are found more often in the anterior region, with 55- 60% presenting in the incisor-cuspid region (Kenney *et al.,*1989). In our case, the lesion was present in the mandibular canine premolar region.

The lesion represents varying stages of a fibroma with ossification, however, ossification or calcification may not be evident in all cases, particularly in the earlier stages of growth as in our case (Kendrick *et al.,* 1996). The present case didn't report marked dystrophic calcification within the lesion. 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 (Rossmann, 2011). Long term postoperative follow-up is extremely important as there is a high growth potential of the inadequately excised lesion with recurrence rate of 8-20% (Eversole *et al.,* 1972). However, in our case there were no signs of recurrence during 12 months follow up. POF clinically resembles as pyogenic granuloma, peripheral giant cell granuloma or odontogenic tumours. So, radiographic and histopathological examinations are essential for an accurate diagnosis.

Conclusion

POF is a non-neoplastic response of the connective tissue or the superficial periodontal ligament to minimal amount of local irritation. Critical clinical and radiographic examination followed by histopathogical examination is crucial for its final diagnosis.

The treatment of choice involves total surgical excision of the mass with meticulous root planing and curettage of the area to prevent recurrence. Regular follow up is required.

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