



AN UNUSUAL PRESENTATION OF SOFT TISSUE FIBRO-OSSEOUS LESION: A CASE REPORT

Dentistry

Dr Krishna Gopal Sharma	Department of Oral Medicine And Radiology, K.D. Dental College And Hospital, Mathura.
Dr Vinay Mohan	Department of Oral Medicine And Radiology, K.D. Dental College And Hospital, Mathura.
Dr Anuj Gaur	Department of Oral Medicine And Radiology, K.D. Dental College And Hospital, Mathura.
Dr Kalpana Poudel	Department of Oral Medicine And Radiology, K.D. Dental College And Hospital, Mathura.

ABSTRACT

Diagnosis of peripheral oral exophytic lesion is quite challenging. Pathologic growth protruding above the normal contour of the oral mucosa is referred to as an oral exophytic lesion. The most frequent lesions found in patients are gingival lesions, and the majority of these are reactive hyperplasias linked to a variety of persistent irritant stimuli. Nodules of inflammatory fibrous hyperplasia are very common. Irritation fibroma, pyogenic granuloma, peripheral ossifying fibroma, and peripheral giant cell granuloma are some of the reactive lesions of the gingiva. The lesions are typically mucosal in colour but can occasionally include localised ulceration. Presenting a case of 30-year-old female with swelling in the anterior Maxillary gingiva, the clinical presentation of which differs from the usual presentation with no radiographic changes.

KEYWORDS

Exophytic, Irritation fibroma, Pyogenic granuloma, Peripheral ossifying fibroma, Peripheral giant cell granuloma.

INTRODUCTION

The relatively rare condition known as peripheral ossifying fibroma (POF) is characterised by reactive gingival overgrowth that is typically made up of cellular fibroblastic tissue that contains one or more mineralized tissues, such as bone, cementum-like material, or dystrophic calcification. However, some writers have proposed a reaction arising from the periodontal ligament as a result of irritants including dental calculus, plaque, orthodontic appliances, and improperly fitting restorations. The aetiology and pathogenesis of POF are yet unknown¹. The anterior maxilla is the most prevalent site of incidence, and females are more frequently affected than males. POFs can occur at any age, with the second decade of life being the peak. POF often manifests clinically as a single, slowly expanding, pedunculated or sessile, nodular mass. The surface mucosa might be pink to red in colour and either smooth or ulcerated². Migration of teeth with interdental bone destruction has been reported in some cases³. Oxytalan fibres that are scattered throughout the calcified structures⁴. The age distribution is inversely correlated with the number of lost permanent teeth, and the almost exclusive occurrence on the gingiva supports the idea that the periodontal ligament is where it originated. Also, POF's fibrocellular reaction is comparable to other reactive gingival lesions that originate from the periodontal ligament⁵.

CASE REPORT

A 30 year old female patient reported to outpatient department of K.D. Dental College And Hospital with the chief complaint of swelling in Right Maxillary anterior gingival region. Swelling was previously smaller in size then gradually increased and has attained present size with no history of pain, pus discharge and bleeding. No history of fever and weight loss was There was no relevant dental, medical and family history reported. Patient consumed Gutkha one sachet per day for 6 months. On intraoral examination all permanent teeth present with normal mucosa, with generalized attrition of all teeth with extrinsic stains. A solitary pale pink colored, roughly oval swelling extending from Mesial surface of 12 to distal surface of 13 involving entire gingiva of approximately 1x1 cm in size was noticed without visible pulsation (figure 2). No secondary changes were seen related to ulceration and fungation. Swelling was firm, non-tender, non-fluctuant, non-compressible and no pulsation were felt with no visible bleeding or discharge evident.

Provisional diagnosis of peripheral ossifying fibroma with respect to the 12, 13 was made. Pyogenic granuloma, traumatic fibroma, peripheral giant cell granuloma, and peripheral ossifying fibroma were considered as the clinical differential diagnosis. No significant radiographic findings were observed in intraoral periapical radiograph (figure 3) as well in maxillary occlusal radiograph (figure 4). Blood

investigation showed slightly decreased hemoglobin and RBC count.

Treatment

Scaling was advised to remove the local irritants. Swelling was excised conservatively. Tissue was sent for histopathological examination (figure 5). Histopathological findings revealed hyperplastic stratified squamous epithelium, overlying a cellular mass of connective tissue stroma. Underlying mass of connective tissue stroma was made up of proliferating fibroblast, blood vessels, collagen fibres within the collagen stroma. Few areas of irregular trabeculae of osteoid were seen. On the basis of these histopathological features, the diagnosis of peripheral ossifying fibroma was made. Based on the history, clinical presentation, radiological and histopathological examination, final diagnosis of peripheral ossifying fibroma with respect to the 12, 13 region was put forth.



Figure 1: Extra Oral Profile Pictures Of Patient With Bilateral Symmetrical Face



Figure 2: Intraoral Picture Showing Solitary Swelling With Normal Mucosa Overlying It.



Figure 3: Intraoral Periapical Radiographs Of Right Maxillary Anterior Region Revealed Teeth 12,13,14,15 And 16. Enamel, Dentin And Pulp Can Be Easily Traced, With No Specific Periapical Finding W.r.t 12,13. Trabeculae Of Bone Was Normal.



Figure 4: Maxillary Occlusal Radiograph Reveals Soft Tissue Shadow In The Right 12,13 Region.



Figure 5: Excised Tissue

DISCUSSION

The periodontal ligament or connective tissue is the primary source of gingival fibromas. Ossifying fibroma is a benign tumour that primarily affects the bones of the skull and face. Histologically, the tumour is formed of proliferating fibroblasts with interspersed bone or calcified masses. There are two main categories of osseous fibromas: central and peripheral. The endosteum or periodontal ligament next to the root's apex serves as the nidus of origin for the central type, which over time causes the medullary space to enlarge and result in extra oral swelling. In contrast, the peripheral type develops in relation to the soft tissues in the tooth-bearing regions of the jaws^{6,7}. The exact cause of POF is unknown. Many reasons have been discussed in the literature as potential risk factors for the development of POF, including trauma to the gingiva, plaque build-up, calculus, masticatory pressures along with poorly fitting appliances, fractured or damaged restorations, and improperly fitted crowns⁸. According to a theory, POF resembles long-standing pyogenic granulomas, both clinically and histopathologically, and originates from their secondary fibrosis. It may develop as a result of long-term inflammation of the periosteal and periodontal membranes, which can lead to connective tissue metaplasia and the development of bone or dystrophic calcified masses⁹. As it prefers females, especially in the second decade of life, hormones may play a significant effect¹⁰. POF had an incidence in the

range of 9–10%¹¹. About 60% of instances occur in the anterior maxilla, where it is most frequently found, and between 55 and 60% in the incisor-cuspid region¹². Clinically, the POF manifests as a sessile or occasionally pedicled exophytic, smooth-surfaced, pink or red nodular mass. The peripheral ossifying fibroma is between 0.2 and 3.0 cm in size^{2,13}. Depending on how long the lesion has been present, the radiographic characteristics of POF might range from no change to devastating alterations. In some instances, it is possible to discern discrete patches of radiopaque calcifications near the lesion's centre, cupping defect, and superficial erosion of the underlying bone⁹. Neoplastic growths should also be considered as a differential diagnosis because they occasionally occur and have comparable symptoms, even though this is a rare occurrence. Only 2% of cases had cancer on the differential diagnosis, according to some publications¹².

With the recognition of fibrous connective tissue and the localised presence of bone or other calcifications, as was the case in this instance, histopathology offers the confirmed diagnosis. In this lesion, we can detect three different types of mineralized tissues: 1. bone that may be braided, lamellar, occasionally bordered by osteoid, or in trabecular form; 2. cementum-like substance that appears as big acellular round-to-oval eosinophilic masses or spherical structures resembling cementum; 3. Dystrophic calcifications, which can range from small clusters of minute basophilic granules or tiny globules to large, solid irregular masses^{13,14}. In order to prevent recurrence, it's crucial to thoroughly eliminate the lesion, taking into account the surrounding periosteum and periodontal ligament in addition to any potential reasons. Adjacent teeth should have their roots thoroughly scaled, and any additional irritants should be eliminated. Seldom is tooth extraction essential^{13,14,15}. There have been reports of a rate of recurrence that ranges from 8.9% to 20%^{6,10}. It most likely happens as a result of improper initial removal, repeated harm, or lingering local irritants. The first recurrence usually occurs after an average of 12 months^{13,16}.

CONCLUSION

POF presents in a variety of clinico-pathological ways. There is a lot of overlap between the different focal reactive overgrowths of gingiva. To facilitate correct patient evaluation and care, the identification of any reactive lesions necessitates the construction of a differential diagnosis. In order to reduce the likelihood of recurrence, peripheral ossifying fibroma requires full eradication of the lesions down to the periosteum and periodontal ligament as well as ongoing post-excision follow-ups.

REFERENCES

- Neville BW, Damm DD, Allen CM, Bouquot JE. Soft tissue tumors. In: Oral and Maxillofacial Pathology. 2nd ed. Philadelphia: Saunders; 2002. p. 451-2.
- Buchner A, Hansen LS. The histomorphologic spectrum of peripheral ossifying fibroma. *Oral Surg Oral Med Oral Pathol* 1987;63:452-61
- Yadav R, Gulati A. Peripheral ossifying fibroma: A case report. *J Oral Sci* 2009;51:151-4.
- Wright BA, Jennings EH. Oxytalan fibers in peripheral odontogenic fibromas. A histochemical study of eighteen cases. *Oral Surg Oral Med Oral Pathol* 1979;48:451-3.
- Garcia de Marcos JA, Garcia de Marcos MJ, Arroyo Rodriguez S, Chiari Rodrigo J, Poblet E. Peripheral ossifying fibroma: A clinical and immunohistochemical study of four cases. *J Oral Sci* 2010;52:95-9
- Bhaskar SN, Jacoway JR (1966) Peripheral fibroma and peripheral fibroma with calcification: report of 376 cases. *J Am Dent Assoc* 73: 1312-1320.
- Keluskar V, Byakodi R, Shah N (2008) Peripheral ossifying fibroma. *J Indian Acad Oral Med Radiol* 20: 54-56.
- Gardner DG (1982) The peripheral odontogenic fibroma: an attempt at clarification. *Oral Surg Oral Med Oral Pathol* 54: 40-48
- Kendrick F, Waggoner WF (1996) Managing a peripheral ossifying fibroma. *ASDC J Dent Child* 63: 135-138.
- Kenney JN, Kaugars GE, Abbey LM (1989) Comparison between the peripheral ossifying fibroma and peripheral odontogenic fibroma. *J Oral Maxillofac Surg* 47: 378-382.
- Layfield LL, Shopper TP, Weir JC (1995) A diagnostic survey of biopsied gingival lesions. *J Dent Hyg* 69: 175-179
- Zhang W, Chen Y, An Z, Geng N, Bao D (2007) Reactive gingival lesions: a retrospective study of 2,439 cases. *Quintessence Int* 38: 103-110
- Cuisia ZE, Brannon RB (2001) Peripheral ossifying fibroma-a clinical evaluation of 134 pediatric cases. *Pediatr Dent* 23: 245-248
- Poon CK, Kwan PC, Chao SY (1995) Giant peripheral ossifying fibroma of the maxilla: report of a case. *J Oral Maxillofac Surg* 53: 695-698
- Kumar SK, Ram S, Jorgensen MG, Shuler CF, Sedghizadeh PP (2006) Multicentric peripheral ossifying fibroma. *J Oral Sci* 48: 239-243
- Das UM, Azher U (2009) Peripheral ossifying fibroma. *J Indian Soc Pedod Prev Dent* 27: 49-51