



PERIPHERAL OSSIFYING FIBROMA: A CLINICAL CASE REPORT

Chelluboina Meghana	Post Graduate student, Department of Periodontics, Mamata Dental College, Khammam.
A.Rithesh Kumar	Post Graduate student, Department of Periodontics, Mamata Dental College, Khammam
M.Sardhar Singh	Post Graduate student, Department of Periodontics, Mamata Dental College, Khammam
C.Srikanth	Head and Professor, Department Of Periodontics, Mamata Dental College, Khammam.

ABSTRACT Gingival overgrowths are one of the most frequently seen lesions in the oral cavity. The gingiva is many a times the site of localized overgrowths that are deliberated to be active rather than neoplastic in nature. Various lesions with similar clinical features make it difficult to reach a proper diagnosis. One of the rarely occurring gingival lesions is peripheral ossifying fibroma (POF). Most of these lesions cannot be identified clinically and can be diagnosed as specific entity only on the basis of typical histological characteristic features. Peripheral ossifying fibroma is one such reactive lesion believed to arise from the periodontal ligament comprising about 9% of all gingival growths. The size of the lesion is usually small, located mainly in the anterior maxilla with a higher predilection for females, and it is more common in the second decade of life. Rate of recurrence for peripheral ossifying fibroma is 8% to 20%. A clinical case of a 32 year old female patient presenting with a small peripheral ossifying fibroma in the anterior maxilla has been discussed in the following article.

KEYWORDS : Gingival overgrowth, Peripheral ossifying fibroma, fibrous epulis, peripheral cemento ossifying fibroma, calcifying fibroblastic granuloma.

Introduction

Gingival growths are one of the most frequently encountered lesions in the oral cavity. Most of these lesions, such as irritational fibroma, pyogenic granuloma, peripheral ossifying fibroma and peripheral giant cell granuloma, are innocuous and rarely present with aggressive features. In majority of cases, these lesions are the result of trauma or chronic irritation. One of the infrequently occurring gingival lesions is peripheral ossifying fibroma (POF). Peripheral ossifying fibroma is a focal, reactive, non-neoplastic tumor-like growth of the soft tissue that often arises from the interdental papilla⁽¹⁾. This case report highlights the diverse clinical and histopathological presentations of peripheral ossifying fibroma through a case encountered in our department.

CLINICAL CASE REPORT

Clinical Examination:

A 39 years old female patient came to the Outpatient wing in the Department Of Periodontics, Mamata Dental College and Hospital, Khammam with a chief complaint of overgrowth in the gums of upper front teeth region since past 2 months.

On Intraoral examination, a painless erythematous, round, sessile overgrowth of the interdental papilla of the maxillary left central incisor and lateral incisor, which is shiny in consistency was seen.

The lesion was about 2mm in diameter extending mesiodistally and about 1mm diameter extending apico-occlusally occupying the embrasure between the maxillary central and lateral incisors. There was no occlusal extension of the lesion and it was not ulcerated at the time of examination.

On enquiry about the history of the development of the lesion, the patient revealed that the lesion had an incipient growth on its own about 2 months back, as a pea shaped nodule and attained the present size. There was no pain associated with the lesion but it occasional bleeding was seen when the lesion got traumatized with the tooth brush during oral hygiene practices. There was no significant medical, family or drug history.

On intraoral examination there is a solitary, sessile, pea shaped enlargement, which is pale pink in color seen in relation to distal aspect of the interdental papilla of 21, size ranged about 0.5mm in diameter. On hard tissue examination, root canal treatment was done in relation to 21 and restored with a metal ceramic crown. Bleeding on probing was seen in relation to same tooth (Fig 1).



Fig 1: Clinical picture of peripheral ossifying fibroma

Radiographic examination

Only soft tissue shadow and space was revealed on radiographic examination in between the maxillary left central and lateral incisors.

Histomorphological Examination

On histological examination, evidence of calcification in the hypercellular fibroblastic stroma was seen. Sparse endothelial proliferation with few inflammatory cell infiltrate was seen (Fig 2).

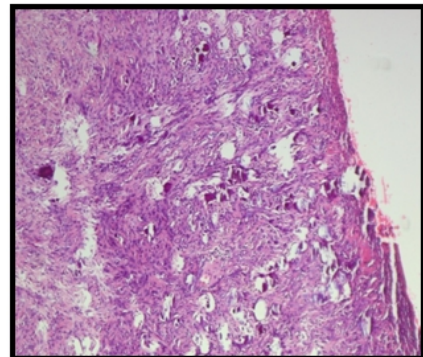


Fig 2: Histological presentation of peripheral ossifying fibroma

Diagnosis

On the basis of the clinical examination and histological examination,

the lesion was confirmed to be "Peripheral Ossifying Fibroma".

Treatment

After routine blood examinations, excisional biopsy of the growth was done under antibiotic coverage and thorough curettage of the adjacent periodontal ligament, and periosteum was carried out to prevent recurrence.

Follow-up

The follow up of the case showed normal healing of the area

DISCUSSION

In 1982, Gardner coined the term peripheral ossifying fibroma for a lesion that is reactive in nature and is not the extraosseous counterpart of a central ossifying fibroma (COF) of the maxilla and mandible⁽²⁾. The use of a variety of terminologies for POF indicates a great amount of confusion regarding the lesion and its pathogenesis. Ossifying fibroid epulis, peripheral fibroma with calcification, peripheral cemento-ossifying fibroma, calcifying fibroma, peripheral cementifying fibroma, ossifying fibro-epithelial polyp, peripheral fibroma with osteogenesis, peripheral fibroma with cementogenesis, peripheral fibroma with calcification, calcifying or ossifying fibrous epulis and calcifying fibroblastic granuloma are all terms that have been used to refer to peripheral ossifying fibroma⁽³⁾.

POF accounts for 3.1% of all oral tumours and 9.6% of gingival lesions^{(4),(5)}. This condition affects both genders but has been reported to occur at a higher rate in females⁽⁶⁾. Whites (71%) are more frequently affected than blacks (36%)⁽⁴⁾. POF may occur at various ages, but exhibits a peak incidence between the second and third decade⁽⁷⁾.

The female to male ratio reported in the literature varies from 1.7:1^{(2),(5)} to 4.3:1^{(1),(2)}. By most reports, the majority of the lesions occur in the second decade, with a declining incidence in later years.^{(1),(2)} The lesion may be present for a number of months to years before excision, depending on the degree of ulceration, discomfort and interference with function.^{(1),(6)}

There are two types of ossifying fibromas: the central type and the peripheral type. The *central type* arises from the endosteum or the periodontal ligament adjacent to the root apex and causes the expansion of the medullary cavity. The *peripheral type* occurs solely on the soft tissues covering the tooth-bearing areas of the jaws⁽⁴⁾. COF was found to exhibit increased proliferative activity compared to POF⁽⁵⁾.

The term 'peripheral odontogenic fibroma' has also been used to describe peripheral ossifying fibroma but should be avoided, as peripheral odontogenic fibroma (POdF) has been designated by the World Health Organization (WHO) as the rare and extraosseous counterpart of central odontogenic fibroma (COdF) and histologically presents as a fibroblastic neoplasm containing odontogenic epithelium⁽⁶⁾. Regardless of the resemblance in terminology, POF is a completely separate entity from peripheral odontogenic fibroma and central ossifying fibroma.

Though there is uncertainty regarding the *pathogenesis of this lesion*, evidence suggesting its probable origin from the periodontal ligament includes the exclusive occurrence of POF in the gingiva (interdental papilla), the proximity of the gingiva to the periodontal ligament, and the presence of oxytalan fibers within the mineralized matrix of some lesions⁽³⁾. The mature fibrous connective tissue proliferates excessively in 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 initiates the formation of bone or dystrophic calcification. Thus, local irritants such as dental plaque, calculus, microorganisms, masticatory forces, ill-fitting dentures and poor quality restorations have been implicated in the etiology of POF⁽⁵⁾. In addition, factors such as a higher prevalence in females and a peak occurrence in the second decade of life suggest hormonal influences⁽⁶⁾. The rare manifestation of multi-centric occurrence points to a role of genetics in the pathogenesis of this disease⁽³⁾.

Clinically, POF appears as a solitary nodular mass that is either pedunculated or sessile. The surface mucosal color ranges from red to pink, and the surface is frequently ulcerated. The mass usually arises from the interdental papilla. Lesions occur slightly more frequently in

the maxillary arch (60%) and the incisor, cuspid region (50%)⁽²⁾. One of present cases showed a deviation from these preferred sites and occurred in the mandibular posterior region. Multi-centric POF has been reported very rarely⁽³⁾.

POF lesions usually measure less than 1.5 cm in diameter, but lesions with 6 cm and 9 cm diameters have been reported⁽⁴⁾. In this case, lesion exhibited within 1.5 cm in diameter. POF also has the potential to cause separation of the adjacent teeth, resorption of the alveolar crest, destruction of the bony structure and cosmetic deformity.⁽²⁾ But these findings are not observed in this case may be due to the short duration.

Radiographically, POF can appear as diffuse radiopaque calcification, but not all lesions exhibit these characteristics. Occasionally, these lesions are associated with bone destruction⁽⁷⁾.

POF is definitively diagnosed through a *histopathologically*. Histopathological examination usually shows the following features: 1) benign fibrous connective tissue with varying fibroblast, myofibroblast and collagen content, 2) sparse to profuse endothelial proliferation, and 3) mineralized material that may represent mature, lamellar or woven osteoid, cementum-like material, or dystrophic calcifications. Acute or chronic inflammatory cell infiltration can also be seen in these lesions⁽³⁾. The treatment of choice is complete surgical excision along with the removal of the irritating factors and scaling of adjacent teeth.⁽³⁾ The rate of recurrence has been reported at 8.9%, 19%, 11%, 14%, 9%, 16% and 20%.² Therefore, close postoperative monitoring is required in all cases of POF^{(1),(7)}.

REFERENCES

1. K. S. Poonacha, Anand L, Shigli, and Dayanand Shirol. Peripheral ossifying fibroma: A clinical report. *Contemp Clin Dent*. 2010; 1(1):54-56.
2. Sumona Pal, Shruthi Hegde, Vidya Ajila. The varying clinical presentations of peripheral ossifying fibroma: A report of three cases. *Rev Odonto Cienc* 2012;27(3):251-255.
3. Farquhar T, MacLellan J, Dymont H, Anderson RD. Peripheral Ossifying Fibroma: A Case Report. *JADC* 2008; 74(9):809-11.
4. Mishra MB, Bhishen KA, Mishra S. Peripheral ossifying fibroma. *J Oral Maxillofac Pathol* 2011; 15(1):65-8.
5. Prasad S, Reddy SB, Patil SR, Kalburgi NB, Puranik RS. Peripheral ossifying fibroma and pyogenic granuloma. Are they interrelated? *N Y state Dent J* 2008; 74(2):50-2.
6. Yadav R, Gulati A. peripheral ossifying fibroma. A case report. *J Oral Sci* 2009; 15:151-4.
7. Carrera Grano I, Berini Aytes L, Escoda CG. Peripheral ossifying fibroma. Report of a case and review of the literature. *Medicina Oral* 2001; 6(2):135-141.