Case Report

University J Dent Scie 2023; Vol. 9, Issue 4

Peripheral Ossifying Fibroma: A Case Report

Abstract:

Peripheral ossifying fibroma (POF) frequently arises from the peripheral tissues like gingiva. It is commonly found in females, mostly in the anterior of the molar region. POF is predicted to arise from the cells of periodontal ligament due to close proximity of gingiva to periodontal ligament. Its exact origin is unclear.

The present article describes the case of recurrent peripheral ossifying fibroma located in the maxillary left incisor region in a 15-year-old male patient. Clinical, radiographic and histologic features as well as differential diagnosis, treatment and follow-up are discussed in this report. Early diagnosis along with surgical excision and curettage of surrounding tissue is important for the prevention of recurrences. Early conservative management of lesion reduces the risk of progression of lesion, and frequent follow-up visits are required to evaluate for recurrences.

Key-words: Peripheral ossifying fibroma, Gingiva, Gingival overgrowth.

Introduction:

Gingiva is considered to be a common site for localized reactive lesions but not for neoplastic lesions.[1] There are many types of localized reactive lesions, that occur on the gingiva, including focal fibrous hyperplasia, pyogenic granuloma, peripheral giant cell granuloma and peripheral ossifying fibroma.[2,3,4] These lesions may occur because of irritants like trauma, microorganisms, plaque, calculus, restorations and dental appliances.[3,4]

POF is the lesion, which comes under focal reactive gingival overgrowths (FRGO). FRGO are the groups of lesions ranging from reactive lesions to benign neoplasms. The origin of FRGO is found to be either from the gingiva or from periodontium.

POF clinically present with a soft tissue growth, pale pink to dark red in color with smooth or rough surface attached by a sessile or pedunculated base adhering to the underlying tissue.[5,6] Females are more susceptible than males for POF, commonly occurs in 5-25 years old patients.[7]

Access this article online

Website: www.ujds.in

Quick Response Code

DOI: https://doi.org/10.21276/ujds.2023.9.4.11

Case Report:

A male patient of 15 years reported to the Department of Periodontology and Oral Implantology, Hazaribag College of Dental Sciences and Hospital, with the chief complaint of growth of gingiva in his maxillary anterior region. On taking history, the patient noticed the swelling 1 year ago. There was no history of blood, pus or any discharge over the swelling. The patient also reported the earlier two excision of the lesion on the same site.

On clinical examination a non- Pedunculated, lobulated, dome shaped, elevated overgrowth was found on maxillary left incisors region. The growth was pinkish red, had firm in

[1]RAKHI KUMARI, [2]ANNAPURNA AHUJA, [3]RICHA SINGH, [4]SHARMILA KUMARI

[1-4]Dept of Periodontology & Oral Implantology, Hazaribag College of Dental Sciences & Hospital, Hazaribag, Jharkhand.

Address for Correspondence: Dr. Annapurna Ahuja
Prof & Head
Dept of Periodontology and Oral Implantology
Hazaribag College of Dental Sciences and Hospital
Demotand, Hazaribag, Jharkhand
E-mail : annapurna.ahuja@yahoo.com

Received : 23 July, 2023, **Published :** 30 November, 2023

How to cite this article: Rakhi Kumari, Ahuja, A., Richa singh, & sharmila kumari. (2023). Peripheral Ossifying Fibroma: A Case Report. UNIVERSITY JOURNAL OF DENTAL SCIENCES, 9(4). 54 - 57

consistency, was not fixed to underlying tissue and extended between tooth no. 21 and 22, in maxillary left central and lateral incisors. (Figure- 1) Bleeding on probing was present. The growth was non tender on palpation.

Radiographic examination revealed no evidence of bony involvement. Blood investigations were carried out and were found to be normal. Based on the clinical and radiographic findings, provisional diagnosis of Ossifying Fibroma was made.

Scaling was performed on the anterior region of maxillary arch as phase I therapy. The lesion was surgically excised with electrocautery and the patient was given medication for further healing. He was kept under observation. The lesion was sent for histo-pathological evaluation after excision.

Figure 1 – Pre –operative picture

Figure 2- Post- operative picture after 1 week

The histological examination reveals parakeratinized stratified squamous epithelium overlying the connective tissue stroma. Epithelium shows hyperplasia in some areas. Connective tissue stroma consists of a highly cellular mass of proliferating fibroblast intermingled with fibrillar tissue and also consists of large and small trabeculae of bone. The presence of mixed inflammatory infiltrate is also evident. The overall features are suggestive of Peripheral Ossifying Fibroma based on a Clinico-Pathological Correlation

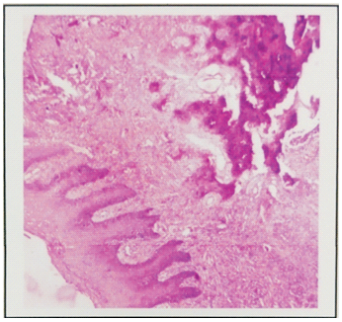

Figure-3

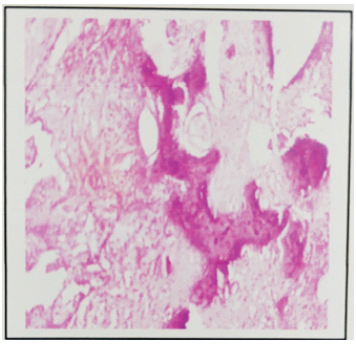

Figure- 4

Discussion:

Among focal reactive gingival overgrowths (FRGO), POF is the third most common lesion.[8] Other names of POF are 'fibrous epulis', 'calcifying fibroblastic granuloma' and 'peripheral cementifying fibroma'. The etiology for occurrence of POF is unknown but may be dental plaque, bruxism, inadequate prosthetic teeth.[9] POF contributes to 9.6% of all gingival lesions and 3.1 % of all oral tumors.[10] Menzel first described the lesion ossifying fibroma in 1872 but Montgomery gave the terminology in 1927.[11] In 2007, Cawson explained POF as gingival nodule, which remains composed of a cellular fibroblastic connective tissue stroma which is associated with the formation of randomly dispersed foci of mineralized products, like bone, cementum-like tissue, or a dystrophic calcification.[12]

Two types of ossifying fibromas are:

a) Central type- arises from the endosteum or periodontal ligament.

b) Peripheral type- arises from soft tissues.[13]

Hypothesis for etiopathogenesis of POF are:

I. The first one is, it may develop as pyogenic granuloma with subsequent fibrous maturation and calcification, representing the progressive stage of the same spectrum of pathosis.

II. Another is that may be due to inflammatory hyperplasia of cells of periosteum or periodontal ligament followed by metaplasia of connective tissue leading to dystrophic calcification and bone formation. This may be due to the periodontal ligament is more adherent to the gingiva and contains the oxytalanfibers which may undergo calcification spontaneously to inflammation.[14]

These lesions may arise as a result of such irritants as trauma, microorganisms, plaque, calculus, restorations and dental appliances.

The clinical features of the lesion include that POF is usually less than 1.5-2 cm in diameters but may grow to larger sizes.[15] It is usually a single pedunculated growth or it may be sessile. The color variation may be from red to pink with scattered areas of ulceration, the surface may be either smooth or irregular. Usually it does not involve the bone but sometimes superficial erosions may be seen. The radiographic features are not very characteristic or evident.[16]

The histological features include fibrous proliferation associated with increased cellularity and chronic inflammatory infiltrate. Fibroblasts are of plump shaped with calcification in connective tissue stroma. According to Butcher and Hansen three components may predominate in fibrillarystroma, the dystrophic calcifications, osteoid bone (woven/ lamellar) and cementum. Based on these findings, a histologic variant of peripheral cemento-ossifying fibroma can also be postulated if it contains more cementoid materials.[17]

The treatment of POF includes complete excision of the lesion with scalpel, laser or electrocautery. All local irritants like plaque, calculus or ill-fitting prosthesis should be removed. Laser excision is postulated to be the most effective because it has minimal patient compliance and minimal distortion of biopsy samples. Laser has high affinity for oxygenated haemoglobin facilitating hemostasis and coagulation resulting in high precision and clean incision.[18]

The recurrence of POF may be due to the remnants of lesion because of inadequate excision, persistence of local irritants or repeated trauma.[19] The chance of recurrence of POF is 8-20% so complete excision of entire lesion with surrounding healthy margins and debridement of underlying bone and tooth is recommended.[20, 21]

References:

1. Naderi NJ, Eshghyar N, Esfehanian H. Reactive lesions of the oral cavity: A retrospective study on 2068 cases. Dent Res J (Isfahan). 2012;9:251–255.
2. Bhaskar SN, Jacoway JR. Peripheral fibroma and peripheral fibroma with calcification: report of 376 cases. J Am Dent Assoc 1966; 73(6):1312–20.
3. Eversole LR, Rovin S. Reactive lesions of the gingiva. J Oral Pathol 1972; 1(1):30–8.
4. Gardner DG. The peripheral odontogenic fibroma: an attempt at clarification. Oral Surg Oral Med Oral Pathol 1982; 54(1):40–8.
5. Poonacha KS, Shigli AL, Shirol D. Peripheral ossifying fibroma: A clinical report. ContempClin Dent. 2010;1:54–56.
6. Effiom OA, Adeyemo WL SO. Focal Reactive lesions of the Gingiva: An Analysis of 314 cases at a tertiary Health Institution in Nigeria. Niger Med J. 2011;52:35–40.
7. Eversole LR RS. Reactive lesions of the gingiva. J Oral Pathol. J Oral Pathol. 1972;1:30–8.
8. Ratre MS, Chaudhari PA, Khetarpal S, Kumar P. Effective management of focal reactive gingival overgrowths by diode laser: A review and report of two cases. Laser Therapy 2019;28:291–7. Avaialble:https://doi.org/10.5978/islsm.19- CR-03
9. Lee, K.W. The fibrous epulis and related lesions. Periodontics 1968, 6, 277–292.
10. Walters, J.D.; Will, J.K.; Hatfield, R.D.; Cacchillo, D.A.; Raabe, D.A. Excision and repair of the peripheral ossifying fibroma: A report of 3 cases. J. Periodontol. 2001, 72, 939–944.
11. Eversole LR, Sabes WR, Rovin S. Fibrous dysplasia: a nosologic problem in the diagnosis of fibroosseous lesions of the jaws. J Oral Pathol 1972; 1(5):189-220.
12. RA. CAWSON EWO. Cawson's Essential of oral pathology and oral medicine. 7th ed; 2002.
13. Barot VJ, Chandran S, Vishnoi SL. Peripheral ossifying fibroma: A case report. Journal of Indian Society of Periodontology. 2013;17:819–22.
14. Mohiuddin K, Priya NS, Ravindra S MS. Peripheral ossifying fibroma. J Indian SocPeriodontol. 2013;17:507–9.
15. Poon, C. K.; Kwan, P. C. & Chao SY. Giant peripheral ossifying fibroma of the maxilla: Report of a case. J Oral Maxillofac Surg. 1995;53:695–8.
16. Lázare H, Peteiro A, Pérez Sayáns M, Gándara-Vila P, Caneiro J, GarcíaGarcía A, et al. Clinicopathological

features of peripheral ossifying fibroma in a series of 41 patients. British Journal of Oral and Maxillofacial Surgery. 2019;57:1081–5.

17. Mohiuddin K, Priya NS, Ravindra S MS. Peripheral ossifying fibroma. J Indian SocPeriodontol. 2013;17:507–9.
18. Ratre MS, Chaudhari PA, Khetarpal S, Kumar P. Effective management of focal reactive gingival overgrowths by diode laser: A review and report of two cases. Laser Therapy 2019;28:291–7.
19. Kenney JN, Kaugars GE, Abbey LM. Comparison between the peripheral ossifying fibroma and peripheral odontogenic fibroma. J Oral Maxillofac Surg. 1989;47:378–382.
20. Gardner DG. The peripheral odontogenic fibroma: An attempt at clarification. Oral Surg. 1982;54:40–48.
21. Walters JD, Will JK, Hatfield RD, Cacchillo DA, Raabe DA. Excision and repair of the peripheral ossifying fibroma: A report of 3 cases. J Periodontol. 2001;72:939–944.