ISSN: 0975-833X

Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 8, Issue, 11, pp.41175-41177, November, 2016

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

CASE REPORT

A CASE OF PERIPHERAL OSSIFYING FIBROMA

***Dr. Samiksha Acharya, Dr. V. K. Lohe and Dr. R. R. Bhowate**

Department of Oral Medicine & Radiology, Sharad Pawar Dental College, Sawangi (M), Wardha

ARTICLE INFO

Article History:
Received 26th August, 2016
Received in revised form
05th September, 2016
Accepted 23rd October, 2016
Published online 30th November, 2016

Key words:

Peripheral ossifying fibroma (POF),
Periodontal ligament, Periosteal
and periodontal membrane.

ABSTRACT

The peripheral ossifying fibroma (POF) is a reactive gingival overgrowth usually arising from the interdental papilla. It is a relatively common benign and non-neoplastic lesion in adolescents. Because it is possible to misdiagnose POF as pyogenic granuloma, peripheral giant cell granuloma, or odontogenic tumors, histopathological examination is, therefore, essential for accurate diagnosis, and differential diagnosis is important because of POF's tendency to recur. This article presents a case of peripheral ossifying fibroma in 24-years-old female along with the clinical, histopathologic, and radiographic features and treatment details.

Citation: Dr. Samiksha Acharya, Dr. V. K. Lohe and Dr. R. R. Bhowate, 2016. "A case of peripheral ossifying fibroma", *International Journal of Current Research*, 8, (11), 41175-41177.

INTRODUCTION

Peripheral ossifying fibroma (POF) is a common solitary gingival overgrowth thought to arise from the gingival corium, periosteum, and periodontal ligament (Neville *et al.,* 2009). Other terms used in reference to POF are peripheral cementifying fibroma, peripheral fibroma with cementogenesis, peripheral fibroma with osteogenesis, peripheral fibroma with calcification, calcified or ossified fibrous epulis, and calcified fibroblastic granuloma (Ono *et al.,* 2007; Kumar *et al.,* 2006; Moon *et al.,* 2007). A common gingival growth, it is typically seen on the interdental papilla and is believed to comprise about 9-10% of all gingival growths. Females are more commonly affected as compared to males, and maxillary anterior region is the most prevalent location of involvement (Ono *et al.,* 2007). Trauma or local irritants such as dental plaque, calculus, micro-organisms, masticatory forces, ill-fitting dentures and poor quality restorations have been implicated in the etiology of peripheral ossifying Fibroma (Neville *et al.,* 2009). After the elimination of local etiological factors, surgical excision is the preferred treatment (Moon *et al.,* 2007). Here, we present a case of peripheral ossifying fibroma which had occurred in mandibular anterior region.

****Corresponding author: Samiksha Acharya,***
Sharad Pawar Dental College, Maharashtra 442001, India.

CASE REPORT

A 24-year-old female patient reported to the Department of Oral Medicine and Radiology, sharad pawar dental college, DMIMS (DU) Sawangi (Meghe) Wardha, India, with a chief complaint of a painless gingival growth in relation to her lower front teeth. The growth started as a small nodule that progressed gradually to the present size within a span of 6 months. The patient did not give any history of trauma, injury, or food impaction and there was no significant medical history. An intraoral examination revealed generalized pink gingiva with a well-demarcated, non-tender, firm, focal, pedunculated nodular growth arising from the interdental papilla of the mandibular right central and lateral incisors and almost covering the crown of both incisors. The oval-shaped mass was 2.5 cm x 3 cm in size, with a reddish pink color, smooth surface, and distinct edges (Figure 1). Bleeding on probing was noted. An intraoral periapical radiograph of the mandibular right central and lateral incisors showed no underlying bone involvement (Figure 2). Clinically, differential diagnoses for the growth were pyogenic granuloma, peripheral odontogenic fibroma, fibroma, and peripheral giant cell granuloma. Oral hygiene instructions were given to the patient and oral prophylaxis was done. The irritating factors (plaque & calculus) were eliminated by thorough scaling and root planing. After 2 weeks, under local anaesthesia, the growth was excised conservatively to prevent the development of an unsightly gingival defect in the mandibular anterior region, followed by root planing and curettage (Figure 3). The excised

tissue was sent for histopathological examination, and the area was sutured with 3-0 silk, using sling suture (Figure 4). The patient was recalled after 1 week for suture removal and showed uneventful healing (Figure 5). At 6 months recall, recurrence of the growth was not observed. Histologically, the specimen showed shows parakeratinized straitified squamous epithelium which is 6-8 layers thick. The underlying connective tissue stroma shows plump proliferative fibroblast, along with marked inflammatory infiltrate and few areas shows calcification appearing basophilic along with few blood capillaries of various shapes and size (Figure 6,7). Histologically, the specimen was suggestive of peripheral ossifying fibroma/peripheral calcifying fibroma. Based on clinical and histological findings, the lesion was diagnosed as POF.

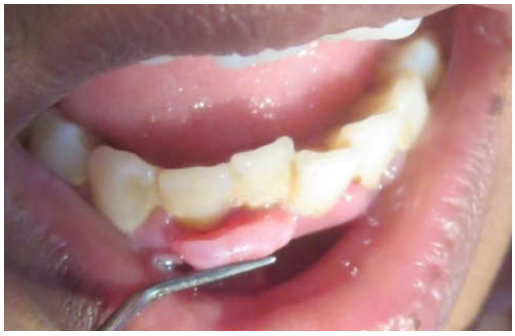

Figure 1. Intraoral pedunculated growth on lower right central and lateral incisors

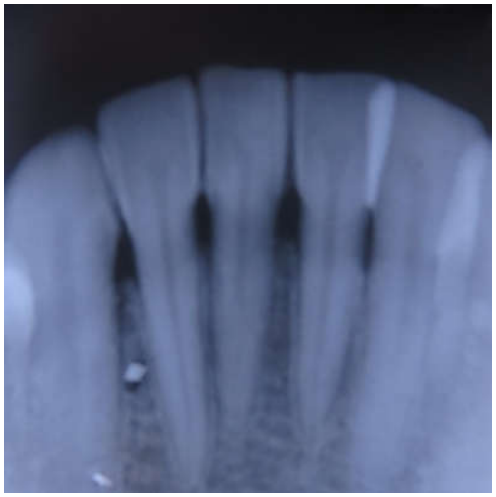

Figure 2. Intraoral periapical radiographs shows mild interdental alveolar bone loss

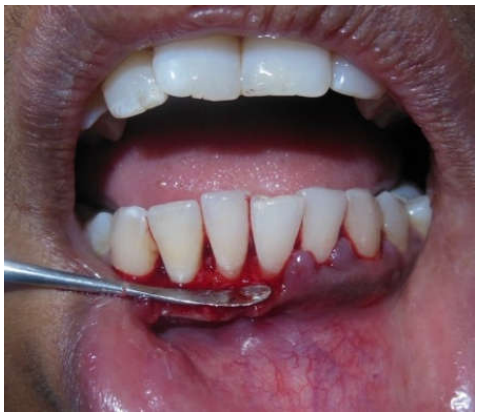

Figure 3. Conservatively surgical excision of the lesion

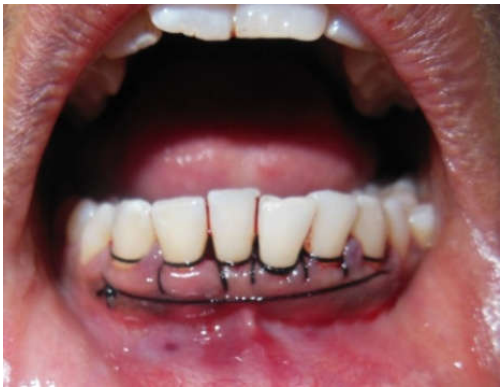

Figure 4. Sutured with 3-0 silk

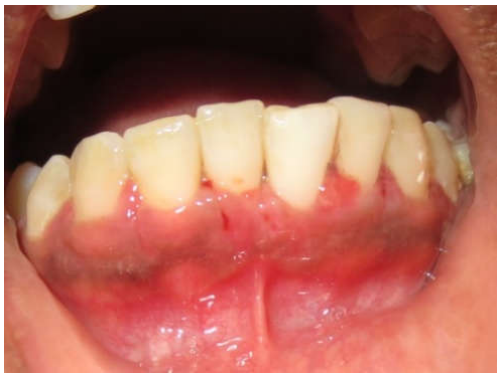

Figure 5. Recall after 1 week for suture removal and showed uneventful healing

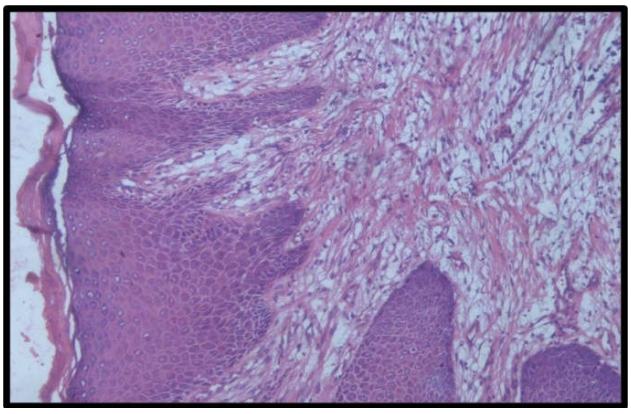

Figure 6. Low power view (10x) shows, parakeratinized straitified squamous epithelium which is 6-8 layers thick

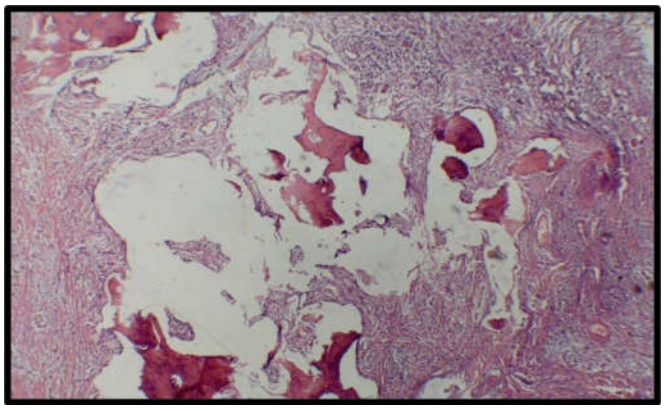

Figure 7. High power view (40x) shows, plump proliferative fibroblast, along with marked inflammatory infiltrate and few areas shows calcification appearing basophilic along with few blood capillaries

DISCUSSION

Peripheral Ossifying Fibroma (POF) is a common gingival growth where is thought to be either reactive or neoplastic in nature. It has been suggested that the peripheral ossifying fibroma represents a separate clinical entity rather than a transitional form of pyogenic granuloma, peripheral giant cell granuloma or irritation fibroma (Bhaskar and Jacoway, 1966). According to Zahang *et al*., 2007 in a study of 2,439 cases of epulis, recorded the following prevalence values: peripheral fibromas, 61.05%, pyogenic granulomas, 19.76%, POF, 17.67%, and peripheral giant cell granulomas, 1.52%[6]. POF is firmer and less friable than the rest of the lesions, and typically shows a longer course. This explains the calcification and/or ossification secondary to fibroblast maturation to collagen tissue (Zahang *et al*., 2007; Marx and Stern, 2003). As it has higher incidence among females hormones may play a role, increasing occurrence in the second decade and declining incidence after the third decade (Kenney *et al.,* 1989). In only 2-3% of cases, neoplasm was considered in its differential diagnosis (Zahang *et al*., 2007). Approximately 60% of POFs occur in females with predilection for maxilla, (Kenney *et al.,* 1989) and more than 50% of all cases occur in the incisor-cuspid region (Neville *et al.,* 2009). Migration of teeth with interdental bone destruction has been reported in some cases (Poon *et al.,* 1995). Though, the etiopathogenesis of POF is uncertain, an origin from the cells of the periodontal ligament has been suggested by Kumar *et al.,* (2006). Therefore, the reasons for such hypothesis include occurrence of the 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. Excessive proliferation of mature fibrous connective tissue is a response to gingival injury, gingival irritation, subgingival calculus or foreign body in the gingival sulcus. Chronic irritation of the periosteal and periodontal membrane causes metaplasia of the connective tissue which initiates formation of bone or dystrophic calcification. It has, therefore, been suggested that lesion may be caused by fibrosis of granulation tissue (Kendrick and Waggoner, 1996). Roentgenographically, in a vast majority of cases there is no apparent underlying bone involvement visible. On rare occasions, there appears to be superficial erosion of bone (Rajendran, 2006). In the present case, underlying bone involvement was not observed. A confirmatory diagnosis of POF is made by histopathological evaluation: (1) Intact or ulcerated stratified squamous surface epithelium; (2) benign fibrous connective tissues with varying numbers of fibroblast; (3) marked inflammatory infiltrate and calcification appearing basophilic (4) mineralized material consisting of bone, cementum like material, or dystrophic calcification; and (5) acute or chronic inflammatory cells in lesions (Neville *et al.,* 2009; Kumar *et al.,* 2006; Kendrick and Waggoner, 1996). All of this features were present in this case. Local surgical excision including the involved periodontal ligament and periosteum of POF is the preferred treatment to avoid the recurrence, which was performed in this case.

The recurrence rate of peripheral ossifying fibroma has been considered high for reactive lesions. The rate of recurrence has been reported to vary from 8.9% to 20 % (Bhaskar and Jacoway, 1996; Kenney *et al.,* 1989; Jain and Deepa, 2010). It probably occurs due to incomplete initial removal, repeated injury or persistence of local irritants. Neville *et al.,* 2009 suggested that the lesion be removed down to the periosteum and the adjacent teeth be scaled to remove any remaining irritants. This will assist in lowering the rate of recurrence. In addition, any identifiable irritant such as an ill-fitting dental appliance and rough restoration should be removed. (Zhang *et al*., 2007) Various different surgical techniques like lateral sliding flap of full thickness or partial thickness, subepithelial connective tissue graft, or coronally positioned flap may be used to manage this defect and minimize patient esthetic concerns. Therefore, peripheral ossifying fibroma of the head and neck, should be considered in the differential diagnosis of the head and neck masses. Complete wide excision with a cuff of the surrounding muscles is the ideal treatment (Jain and Deepa, 2010). Recurrence in POF is mainly due to incomplete excision (Kendrick and Waggoner, 1996).

Conclusion

Peripheral ossifying Fibroma is a slowly growing soft-tissue mass with speckled calcifications in the anterior oral cavity of young adults or children. Histopathological examination is essential for accurate diagnosis. Once diagnosed, POF should be treated by total excision to prevent recurrence.

REFERENCES

Bhaskar, S.N., Jacoway, J.R. 1996. Peripheral fibroma and peripheral fibroma with calcifications. Report of 376 cases. *Journal of American Dental Association,* 73(6):1312-1320.

Jain, A., Deepa, D. 2010. Recurrence of Peripheral Ossifying Fibroma: A Case Report. *People's Journal of Scientific Research,* Vol.3(1).

Kendrick, F., Waggoner, W.F. 1996. Managing a peripheral ossifying fibroma ASDC. *Journal of Dentistry for Children,* 63(2): 135-138.

Kenney, J.N., Kaugars, G.E., Abbey, L.M. 1989. Comparison between the peripheral ossifying Fibroma and peripheral odontogenic fibroma. *J Oral Maxillofac Surg.,* 47(4);378-382.

Kumar, S.K., Ram, S., Jorgensen, M.G., Shuler, C.F., Sedghizadeh, P.P. 2006. Multicentric peripheral ossifying fibroma. *J Oral Sci*., 48, 239-243.

Marx, R.E., Stern, D. 2003. Oral and maxillofacial pathology: a rationale for diagnosis and treatment. Quintessence, Chicago, 23-25.

Moon, W.J., Choi, S.Y., Chung, E.C., Kwon, K.H., Chae, S.W. 2007. Peripheral ossifying fibroma in the oral cavity: CT and MR findings. *Dentomaxillofac Radiol,* 36, 180-182.

Neville, W.B., Damm, D.D., Allen, C.M. 2009. Soft tissue tumors. Oral and Maxillofacial Pathology 3rdedi, Elsevier, 521-523.

Ono, A., Tsukamoto, G., Nagatsuka, H., Yoshihama, Y., Rivera, R.S., Katsuramo, M., Yao, M., Sasaki, A. 2007. An immunohistochemical evaluation of BMP-2, - 4, osteopontin, osteocalcin and PCNA between ossifying fibromas of the jaws and peripheral cemento-ossifying fibromas on the gingiva. *Oral Oncol.,* 43, 339-344.

Poon, C.K., Kwan, P.C., Chao, S.Y. 1995. Giant peripheral ossifying Fibroma of the maxilla: report of a case. *J Oral Maxillofac Surg.,* 53(6):695-698.

Rajendran, R. 2006. Benign and malignant tumors of oral cavity. In:Shafer WG, Hine MK, Levy BM, Shafer's Textbook of oral pathology.5th ed. Philadelphia, PA: W.B. Saunders Co; 113-308.

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.

****