ejpmr, 2015,2(4), 517-523

SJIF Impact Factor 2.026

EUROPEAN JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.ejpmr.com

Case Report

ISSN 2394-3211

EJPMR

EPULIS – A CASE REPORT

[1]Dr. Sunita Singh (M.D), [2]Dr. Sonia Chhabra (M.D), [3]Dr. Pansi Gupta (M.D), [4]*Dr. Sonia Singh (M.D) and [5]Dr. Padam Parmar (M.D)

[1]Senior Professor, Pathology Department Pt. B.D.Sharma, PGIMS, Rohtak – 124001, Haryana, India.

[2]Professor, Pathology Department Pt. B.D.Sharma, PGIMS, Rohtak – 124001, Haryana, India.

[3]Junior Resident, Pathology Department Pt. B.D.Sharma PGIMS, Rohtak – 124001, Haryana, India.

[4,5]Senior Resident, Pathology Department Pt. B.D.Sharma PGIMS, Rohtak – 124001, Haryana, India.

Article Received on 18/05/2015 **Article Revised on 07/06/2015** **Article Accepted on 30/06/2015**

***Correspondence for Author**

Dr. Sonia Singh

Senior Resident, Pathology Department Pt. B.D.Sharma PGIMS, Rohtak – 124001, Haryana, India.

ABSTRACT

Peripheral ossifying fibroma (POF) is a relatively uncommon solitary gingival overgrowth thought to arise from the gingival corium, periosteum, and periodontal ligament. It is a non-neoplastic enlargement of gingiva that is classified as a reactive hyperplastic inflammatory lesion. It is typically seen on the interdental papilla and is believed to comprise about 9% of all gingival growths. Females are more commonly affected than males, and anterior maxilla is the most prevalent location of involvement. The majority of lesions occur during a person's second decade of life. This article presents a case of peripheral ossifying fibroma in a 11-year-old male along with the clinical, histopathologic and radiographic features and treatment details.

KEYWORDS: Peripheral ossifying fibroma, Epulis, Peripheral odontogenic fibroma, Peripheral cementifying fibroma.

INTRODUCTION

Solitary gingival enlargements in children, usually the result of a reactive response to local irritation are relatively common finding. Peripheral ossifying fibroma (POF), one such reactive lesion is a gingival nodule composed of a cellular fibroblastic connective tissue

stroma associated with the formation of randomly dispersed foci of mineralized product consisting of bone, cementum-like tissue, or dystrophic calcification.

It is often associated with trauma or local irritants, such as subgingival plaque and calculus, dental appliances, and poor-quality dental restorations and considered its origin from the cells of periodontal ligament. Clinically, POFs are sessile or pedunculated, usually ulcerated and erythematous or exhibit a color similar to the surrounding gingiva. Most of the lesions are <2 cm in size but rarely larger ones can also occur. The lesions have female predilection and recurrence rate is considered high for a benign reactive proliferation.[1]

Most of the reports in literature suggest that POF is commonly seen in the second decade of life and there is decrease in incidence with increasing age.[2] PCOF affects both genders, but females are more commonly affected according to the literature.[3]

In the majority of cases, there is no apparent underlying bone involvement except in rare cases where superficial erosion of bone has been noted on X-rays.[1]

There are other conditions that have similar clinical appearances and clinical courses, such as pyogenic granuloma or peripheral giant cell granuloma which makes clinical findings alone insufficient for a diagnosis of POF. Therefore, definitive diagnosis requires biopsy and histopathologic examination. The lesion represents varying stages of a fibroma with ossification but ossification and calcification may not be evident in all cases. Local surgical excision is the preferred treatment after elimination of all local etiological factors. Excision should include the periodontal ligament and periosteum at the base of lesion in order to reduce the chances of recurrence. Recurrence rate of 8% to 20% have been reported.[4]

CASE REPORT

A 11 year old boy presented with an exophytic mass in the oral cavity on palate that had enlarged gradually for 7 months. Physical examination revealed a pedunculated, rubbery, non-tender, firm, non fluctuant and pinkish mass on the anterior hard palate. It measured 4x3x3 cms.

Fine needle aspiration smears revealed plump spindle shaped cells in loose clusters alongwith dispersed singly. Background material showed pinkish material and malignant cells, suggestive of spindle cell tumor. Wide excision of lesion was then performed. Pathological examination confirmed the lesion to be peripheral ossifying fibroma or epulis.

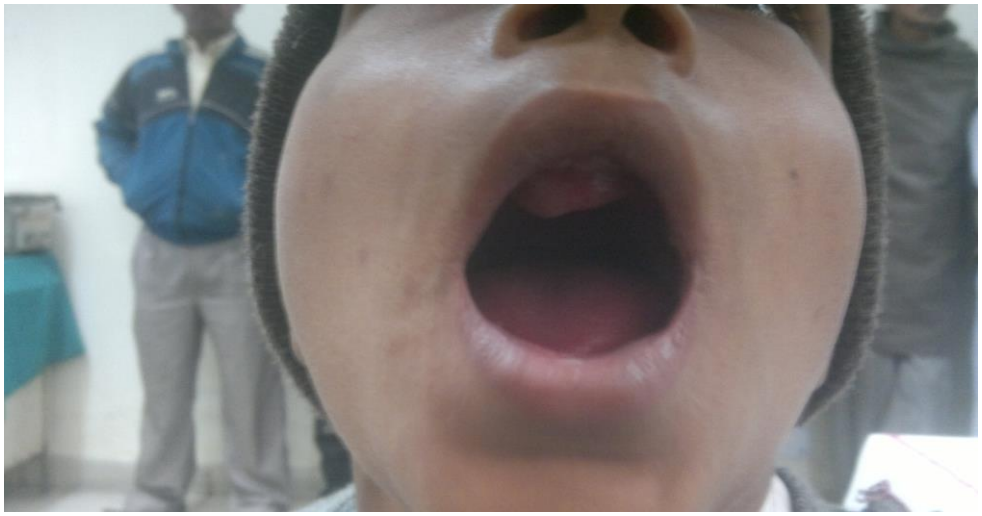

Figure 1: gross photograph of exophytic mass in the oral cavity on palate.

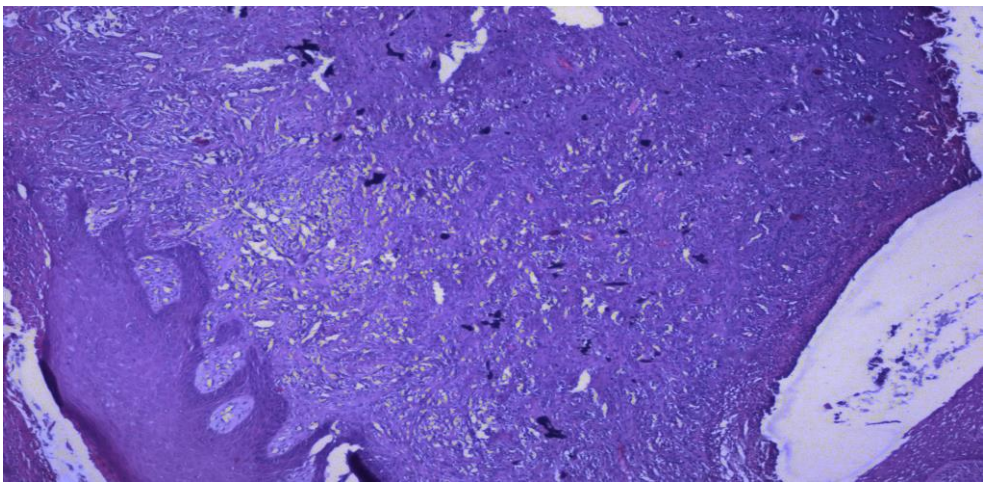

Figure 2: h & e stained sections photomicrograph showing stratified squamous epithelium covered fibrous soft tissues revealing ossifying areas at low power (4x).

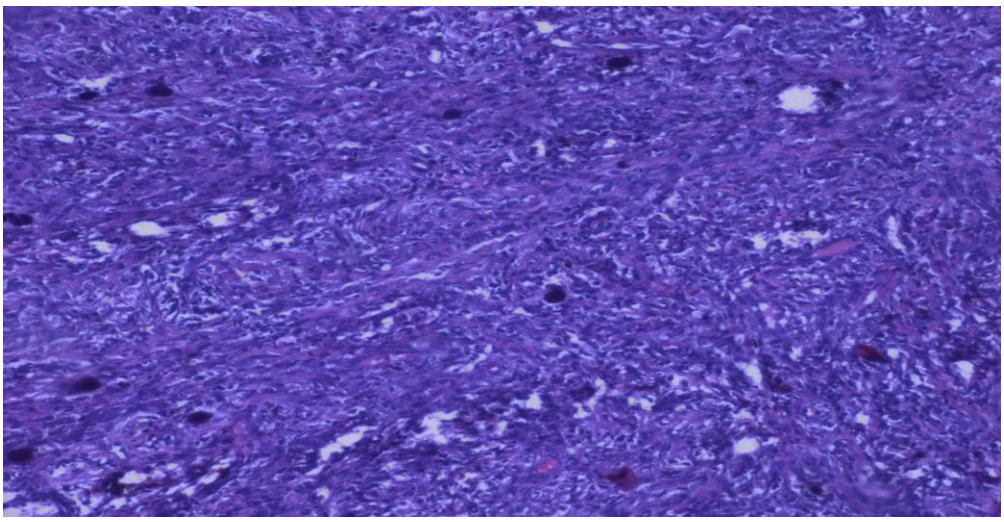

Figure 3: h & e stained sections photomicrograph showing a cellular fibroblastic connective tissue stroma associated with the formation of randomly dispersed foci of mineralized product consisting of bone, cementum-like tissue, or dystrophic calcification at high power (10x).

DISCUSSION

Peripheral ossifying fibroma is thought to be either reactive or neoplastic in nature. Various synonyms has been used for such a lesion, such as peripheral cementifying fibroma ossifying fibroepithelial polyp, peripheral fibroma, fibroma with osteogenesis, peripheral fibroma with cementogenesis, peripheral fibroma with calcification, calcifying or ossifying fibroma epulis, and calcifying fibroblastic granuloma. Ossifying fibromas elaborate bone, cementum and spheroidal calcifications, which has given rise to various terms for these benign fibroosseous neoplasms. When bone predominates we use the term ossifying and when curvilinear trabeculae or spheroidal calcifications are encountered the term "cementifying" has been given. When both bone and cementum-like tissues are evident, preffered term is cemento-ossifying fibroma. Cementifying fibromas may be clinically and radiographically impossible to separate from ossifying type of lesion.[3]

Craniofacial bones are mostly involved by Ossifying fibroma and is generally categorized into two types: central and peripheral. The central type of ossifying fibroma arises from the endosteum or the periodontal ligament (PDL) adjacent to the root apex and expands from the medullary cavity of the bone. The peripheral type shows a contiguous relationship with the PDL and it occur solely on the soft tissues overlying the alveolar process.[5]

In spite of confusing terminology, POF is not the peripheral counterpart of the central ossifying fibroma of the mandible and maxilla, but instead is a reactive gingival lesion known under the generic name of epulis.[6] The reasons for considering a PDL origin for POF include: exclusive occurrence of POF in the gingiva (interdental papilla); the proximity of the gingival lesion to the periodontal ligament; the presence of oxytalan fibers within the mineralized matrix of some lesions; age distribution, which is inversely related to the number of lost permanent teeth; and the fibrocellular response in POF, which is similar to the other reactive gingival lesions of PDL origin. POF comprises nearly 1% to 3% of oral lesions biopsied in various reports.[5] The pathogenesis of POF is uncertain. As they resemble clinically and histopathologically to pyogenic granuloma, some consider POF to develop secondary to fibrosis of granulation tissue. The role of hormones has also been put forward because of specific age and gender distribution. The inflammatory hyperplasia of the cells of periosteum or periodontal ligament is the most widely acceptable histiogenesis. The inflammatory reaction is believed to occur secondary to trauma from local irritants such as plaque, calculus, restorations or ill fitting dental appliances which is convincing because they

occur exclusively in gingiva and with the histomorphological evidence of oxytalan fibers within the mineralized matrix. Another interesting observation is the decline in number of cases as age advances.[7]

It exhibits a peak incidence between the second and third decade but may occur at any age. There is a predominance in whites [71%], compared to blacks [36%]. The female to male ratio reported in the literature varies from 1.22:1 and 1.7:1 to 4.3:1.[8] Clinically, the POF presents as an exophytic, smooth-surfaced, pink or red nodular mass that is sessile, or is less frequently seen on a pedicle. The interdental gingival papilla is frequently involved. Most of the reported POFs have been 1–2 cm in size.[6]

Clinical differential diagnosis includes peripheral giant cell granuloma, pyogenic granuloma, fibroma and peripheralodontogenic fibroma. Histologically, the POF should be differentiated from peripheral odontogenic fibroma. Unlike the POF, the peripheral odontogenic fibroma is a real tumourous condition and has an odontogenic epithelium and dysplastic dentine. The differential diagnosis for oral cavity tumours in the paediatric age group includes haemangioma, lymphangioma, salivary gland tumour from the hard palate and pyogenic granuloma from the gingiva. Hemangiomas and venous malformations show characteristic intense enhancement after contrast injection and may have phleboliths. A lymphangioma appears as a cystic mass, with or without haemorrhage. Salivary gland tumours such as pleomorphic adenoma may show findings similar to the tumour in this case. Pleomorphic adenoma and other salivary gland tumours, however, are uncommon in the paediatric age group and originate not from the gingival area, but from minor salivary glands in the hard palate. The sagittal images may help distinguish between tumours of gingival origin and those of hard palate origin. In this case, the lesion was anteriorly located, relative to the hard palate. POFs can be clinically misdiagnosed as a pyogenic granuloma at an early stage. Pyogenic granuloma are highly vascular non-tumourous conditions involving gingival tissues, with a tendency to haemorrhage. Pyogenic granulomas are usually very small (from a few millimeters to 1 cm) and occasionally show calcification. However, some researchers believe that POF is related to pyogenic granuloma and is probably a matured pyogenic granuloma containing fibrosis and calcification.[6] Histologically, the key feature of this lesion is exceedingly cellular mass of connective tissue comprising large numbers of plump, proliferating fibroblasts intermingled throughout with delicate fibrillar stroma. Buchner et al observed that the mineralized tissues observed in POF can be of three basic types: 1) bone

that may be woven or lamellar bone sometimes surrounded by osteoid, or that may be in trabecular form; 2) cementum-like material that appears as spherical bodies resembling cementum or large acellular round-to-oval eosinophilic bodies, which seemed to have coalesced to form islands in various sizes and shapes; 3) dystrophic calcifications, which can range from small clusters of minute basophilic granules or tiny globules to large, solid irregular masses.[5]

The treatment of choice for POF is local resection with peripheral and deep margins including both the periodontal ligament and the affected periosteal component. Elimination of local etiological factors such as bacterial plaque and tartar is also required. The exposed bone should be covered with adjacent gingival flaps.[9] Chen et al. reported a case in which the gingival defect was satisfactorily covered using an artificial dermal graft. Recurrence is probably a result of incomplete resection of the lesion, failure in sectioning the periodontal ligament, or the development of new lesions.[9]

CONCLUSION

POF is clinically often mistaken for pyogenic granuloma and peripheral giant cell granuloma and radiological alongwith histopathological findings are required for definitive diagnosis. Complete surgical excision is the treatment of choice and due to significant the recurrence rate regular follow-up is required

REFERENCES

1. Das U M, Azher U. Peripheral ossifying fibroma. J Indian Soc Pedod Prev Dent 2009; 27: 49-51.
2. G. Sujatha, G. Sivakumar, J. Muruganandhan, J. Selvakumar, and M. Ramasamy, "Peripheral ossifying fibroma-report of a case," Indian Journal of Multidisciplinary Dentistry, 2012; 2(1): 415–18.
3. Verma E, Bhimashankar Chakki AK, Nagaral SC, Ganji KK, "Erratum to: "Peripheral Cemento-Ossifying Fibroma: Case Series Literature Review" Case Reports in Dentistry, vol. 2013.
4. Kumar SK, Ram S, Jorgensen MG, Shuler CF, Sedghizadeh PP. Multicentric peripheral ossifyingfibroma. J Oral Sci. 2006; 48(4): 239-43.
5. Sharma S, Sharma A, Ramachandra SS. Peripheral Ossifying Fibroma: A Clinical Report. Compendium 2011; 32(5): 86-90.

6. Moon WJ, Choi SY, Chung EC, Kwon KH, and Chae SW, "Peripheral ossifying fibroma in the oral cavity: CT and MR findings," Dentomaxillofacial Radiology 2007; 36: 180-2.
7. Sudhakar S, Kumar PB, Prabhat MPV. Peripheral Ossifying Fibroma. Online J Health Allied Scs. 2009; 8(3): 17.
8. Farquhar T, MacLellan J, Dyment H, and Anderson RD, "Peripheral ossifying fibroma: a case report," Journal of the Canadian Dental Association, 2008; 74(9): 809–12.
9. Peripheral ossifying fibroma: a clinical and immunohistochemical study of four cases. J Oral Sci. 2010 Mar; 52(1): 95-9.