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RECURRING PERIPHERAL CEMETIFYING FIBROMA -A CASE REPORT

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ABSTRACT
Fibro-osseous lesions of the jaws form a group of conditions, which are remarkable for their clinicopathological similarities. The etiology and pathogenesis of fibro-osseous lesions remain a subject of investigation. On occasions clinician may find himself in the position of being the arbiter in the face of equivocal histological evidence. Some pathologists use the same terminology for apparently quite dissimilar lesions, and seemingly others to render the same diagnosis use variable histologic criteria. By analyzing the clinical, radiographic, gross/surgical and histological features of all lesions coded as fibro-osseous lesions we should be able to separate a clinicopathologic entity. Peripheral cementifying fibroma is a reactive gingival overgrowth occurring frequently in the anterior maxilla thought to arise from the periodontal ligament. It is more common in children and young adults. It appears that ossifying fibroma occurs over a wide age range with the greatest number of cases encountered during the second and third decade of life. Trauma or local irritation such as dental calculus, ill fitting denture appliances and faulty restoration are known to precipitate the development of this lesion. We report a case of recurring peripheral cementifying fibroma in the maxillary anterior region of 15 year old male patient.

INTRODUCTION

Soft tissue enlargements in the oral cavity often present a diagnostic challenge because a diverse range of pathologic processes can produce such lesions. Among these are a group of localized gingival overgrowths which are fairly common and mostly represent reactive proliferative lesions rather than the true neoplasms. Typically, such lesions are unifocal and arise as a result of an exuberant response to local irritants like plaque, calculus, faulty dental restorations or trauma. One such reactive gingival overgrowth is Peripheral cementifying fibroma (PCF) [1]. A fibroma refers to soft tissue benign neoplastic growth arising due to over production of fibrous tissue in the connective tissue. In 1872, Menzel first described ossifying fibroma, but only in 1927, Montgomery assigned a terminology to it [2]. Peripheral ossifying fibroma is defined as any solitary growth on the gingiva thought to arise from the periodontal ligament, most commonly at the region of the interdental papillae. The term peripheral fibroma was coined by Eversole and Rovin in 1972 [3]. There is a marked predilection for the female sex, the female:male ratio is 2:1[4].

Peripheral ossifying fibroma is known by different names such as peripheral cementifying fibroma, calcifying or ossifying fibroid epulis, peripheral fibroma with calcification and calcifying fibroma [5]. The present case highlights repeated recurrence of the lesion even after excising the lesion three times.

CASE REPORT

A 15 year old boy reported to the department of pediatric and preventive dentistry, Sri Aurobindo College

of Dentistry with the chief complaint of lump behind the upper front tooth region since 1 month.

Clinical and radiographic examination

The swelling was sudden in onset and progressive in nature. It was associated with mild pain on digital pressure. The patient gave history of bleeding and pain on brushing. Patient had not taken any medication for the same. The past medical and family history were non contributory. Patient had similar lesion three years prior. Patient underwent surgical excision with laser cauterization twice as the lesion recurred twice after excision in a span of three years.

Extra oral examination revealed no significant findings. On intra oral examination, a solitary sessile oval lesion was observed in the interdental papillae on the palatal region. The lesion was oval shaped, reddish pink in color and measured about 3cmx2cm. It was seen extending till the middle third of coronal portion of 22. On palpation, the lesion was soft to firm in consistency, smooth texture & was non tender with diffuse margins (Fig 1). The tooth was non tender on percussion and vitality test were positive.

Radiographic examination revealed no significant change in the underlying normal bone architecture (Fig 2).

Preliminary diagnosis

Because the lesion was located among the teeth surfaces and interdental gingiva and, in appearance pushed the gingiva, preliminary diagnosis of POF was made. The differential diagnosis consisted of peripheral ossifying fibroma, peripheral giant cell granuloma, pyogenic granuloma, peripheral odontogenic fibroma and irritation fibroma.

Biochemical investigations

The laboratory tests performed included, a complete blood hemogram, BT, CT. All the test results were within normal limits.

Treatment

After obtaining informed consent, the patient was scheduled for a thorough full mouth scaling to remove aetiological factors. Under local anesthesia, the localized lesion was completely excised with para-marginal and intrasulcular internal bevel incisions, and underlying bone was curetted. Removed tissue was submitted for histopathological examination. Flaps were sutured with interdental interrupted nonresorbable 4-0 silk sutures (Fig 3a & b). There was considerable bleeding during excision which reinforced our provisional diagnosis as it was vascular in nature. Healing was uneventful.

Histopathological examination and definitive diagnosis

Histopathological examination revealed parakeratinized stratified squamous epithelium with underlying connective tissue showing fibrous tissue exhibiting mineralized structures of varied size, suggestive of cementum like material. Abundant plasma cells and lymphocytes were also observed. Based on all findings, a final diagnosis of peripheral cementifying fibroma was made (Fig 4 a & b).

Follow up

The patient presented for a recall appointment 3 weeks later than the scheduled suture removal day. The surgical site appeared to be healing well (Figure 5). There was no evidence of recurrence of the lesion at postoperative 6th month. The patient is still under regular follow-up.

Figure 1. Pre operative view

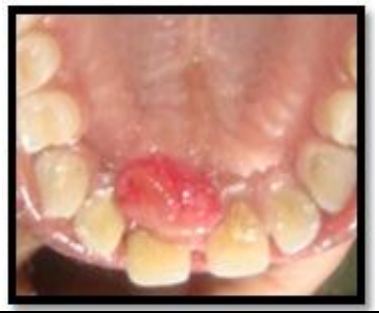


Figure 2. Pre operative radiograph

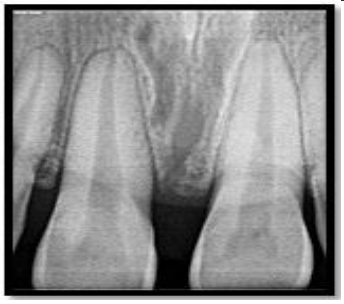


Figure 3a. Post operative view

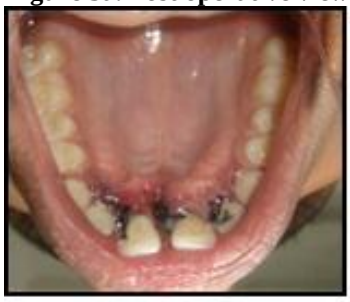


Figure 3b. Excised specimen

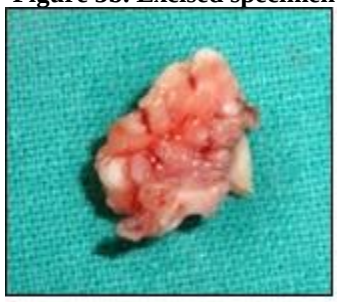


Figure 4a. Histopathologic picture showing parakera tenized epithelium

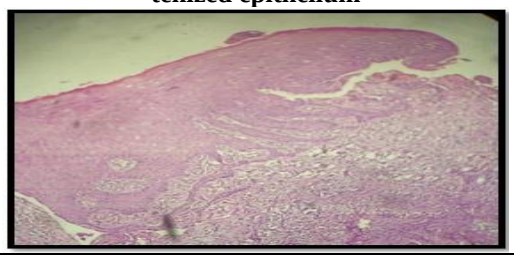


Figure 4b. Celluar connective tissue

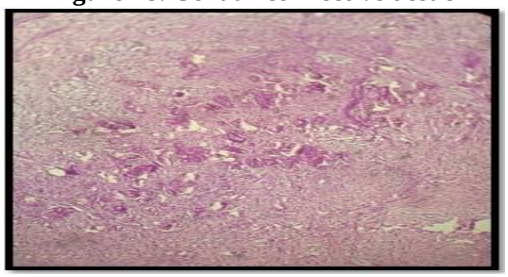
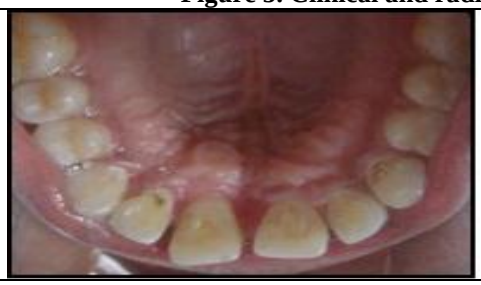
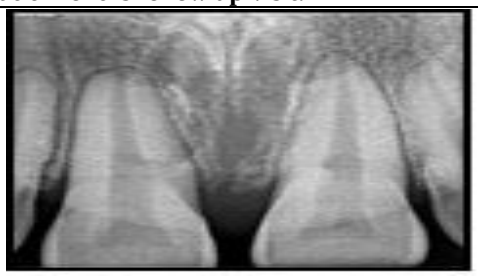


Figure 5. Clinical and radiographic picture at 6 months follow up visit.





DISCUSSION

The present report concerns peripheral cementifying fibroma (PCF), an intriguing lesion to ponder about because of considerable controversy of its nomenclature and etiopathogenesis [1].

In the present case, size of the peripheral cementifying fibroma was 3cm in its diameter but different sizes have been reported varying from 2-3 cm[6,7], to 4mm-8 cm [8] and some lesions may be as large as 9 cm [9] in diameter. Although they are generally 2 cm in diameter [6,10]. Peripheral ossifying fibroma can become large, causing extensive destruction of adjacent bone and significant functional or esthetic alterations [11].

The peripheral ossifying fibroma as discovered in this case is a focal, reactive, non neoplastic tumor like growth of soft tissue often arsing from the interdental papillae. It comprises nearly 3% of oral lesions biopsied in 1 study [12], approximately 1%–2% in other studies [13,7]. In 1993, Das and Das [14] obtained similar results, with 1.6% peripheral ossifying fibroma among 2,370 intraoral biopsies. It accounts for 9.1% of all the gingival lesions [2,3].

Peripheral ossifying fibroma can occur at any age, but exhibits a peak incidence between the second and third decades of life. In the present case peripheral cementifying fibroma was diagnosed at the age of 15 years. Females are commonly more affected than males, the ratio ranged from 3:2 to 2:1. Hormonal influences may play a role, given the higher incidence of peripheral ossifying fibroma among females, increasing occurrence in the second decade and declining incidence after the third decade [15].

There are 2 reported cases of Peripheral ossifying fibroma present at birth, presenting clinically as congenital epuli [16,17]. In a 2001 study, Cuisia and Brannon [7] reported that only 134 out of 657 diagnosed peripheral ossifying fibroma (20%) were in the pediatric population (0–19 years), with 8% in the first decade. In a retrospective study of 431 cases in the Chinese population by Zhang and others [18] the mean age of incidence of peripheral ossifying fibroma was found to be 44 years, which is contradictory to previously published literature. In an isolated case of multicentric peripheral ossifying fibroma, Kumar and others [19] noted the presence of a lesion at an edentulous site in a 49-year-old woman, which once again raises questions regarding the pathogenesis of this type of lesion.

Peripheral ossifying fibroma appears to be more common among white people than black and slightly less common among those of Hispanic origin [20].

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. Approximately 60% of peripheral ossifying fibroma occur in the maxilla and they occur more often in the anterior than the posterior area with 55%–60% presenting in the incisor-cuspid region [20]. In the present case the lesion was present in the incisor region. It was sudden in onset and gradually progressed till one month.

The etiopathogenesis of the peripheral ossifying fibroma is not known, trauma or local irritants such as sub gingival plaque and calculus, dental appliances, poor quality dental restorations, masticatory forces, food lodgements and iatrogenic factors may influence the development of the lesion [21]. Peripheral ossifying fibroma is a slow growing nodular mass that is either sessile or pedunculated. It was sessile in nature in the present case. The surface may be smooth or ulcerated and pink to red in colour. A few cases with migration of teeth and interdental bone has been destructed, but these are not common [3,20].

Average duration of these lesions has been given as > 3 months and most cases have a duration of 6 months to a few years [22].

The radiographic features of peripheral ossifying fibroma may range from no change to destructive changes depending on the duration of the lesion [22]. No radiological findings were observed in the present case as is in some studies [23,11].

The clinical features are not sufficient for the diagnosis of Peripheral ossifying fibroma because there are other conditions that may have similar clinical appearances and clinical courses such as pyogenic granuloma and peripheral giant cell granuloma. Therefore biopsy and histopathological examination is required for definitive diagnosis [24].

Microscopically, peripheral cementifying fibroma usually exhibits stratified squamous epithelium which can be ulcerated in >20% of the cases. The connective tissue component consists of highly cellular fibrous tissue with areas of mineralization. The calcification may be in the form of single or multiple interconnecting trabeculae of bone or osteoid (either mature lamellar bone or immature cellular bone), although less commonly globules of calcified material closely resembling acellular cementum or a diffuse granular dystrophic calcification may be found [1].

There are three types of mineralized tissue in the Peripheral ossifying fibroma: dystrophic calcification, bone (woven or lamellar), and cementum- like material. The dystrophic calcification is most prevalent in ulcerated lesions. Ossification or calcification may not be evident in all cases, particularly in the earlier stages of lesional growth [24].

It is suggested that there is no absolute histological distinction between bone and cementum, and as the so-called cementum-like globules of calcification are seen in fibro-osseous lesions in all membrane bones, it is unrealistic to separate the ossifying and cementifying lesions and it is speculated that the fibroosseous lesions might represent stages in the evolution of a single disease process passing through the stages of fibrous dysplasia to ossifying fibroma to cementoid lesions [24].

Removal of irritant factors and excisional biopsy, along with removal of adjacent periodontal ligament and periosteum has been established as a treatment for peripheral ossifying fibroma and been conventionally performed using scalpel and curettes. However, it causes significant intraoperative bleeding, postoperative pain and sometimes loss of keratinized gingival tissue, resulting in soft tissue defect and root exposure that later requires plastic surgery [25].

Electrosurgery and radiosurgery though offer better hemostasis when compared to scalpel, regressive tissue changes due to thermal injury and delayed healing make them unsuitable for excisional biopsy of reactive gingival lesions [25].

The reccurence rate has been fairly high which has been reported in the literature at a rate of 9% [7], 16% [11] and 20% [26].

Peripheral ossifying fibroma recurs due to [27]

1. The incomplete removal of the lesion,
2. The failure to eliminate local irritants and
3. Difficulty in accessing the lesion during surgical manipulation as a result of the intricate location of the lesion (usually an interdental area).

CONCLUSION

In conclusion, a slowly growing soft tissue mass in the oral cavity may raise a suspicion of a reactive gingival lesion such as Peripheral cementifying fibroma. This report highlights the varied clinical and radiographic features of peripheral cementifying fibroma and discusses the various terminologies used for it. It is a benign fibroosseous lesion with significant growth potential. Relying on the clinical features of a disease can lead to misdiagnosis, therefore histopathological examination is must. Discussion of the differential diagnosis should be done tactfully to prevent unnecessary distress to the family. Histopathologic diagnosis is essential for accurate diagnosis. Treatment consists of surgical excision, which should include the periosteum and scaling of the adjacent teeth. The average time interval for the first recurrence is 12 months [3]. Taking into consideration the recurrence rate a recall regime of increased frequency is to be adopted for betterment of the patient.

REFERENCES

1. Daing A, Dixit J, Hussain N. (2011). Peripheral Cementifying Fibroma:A Case Report. *International journal of contemporary dentistry*, 2(1), 89-2.
2. Yadav A, Mishra MB. (2011). Peripheral cementoossifying fibroma of the mandible: A case report. *Indian J Stomatol*, 2(3), 193-6.
3. Suchetha A, Veerendra Kumar, Deepika J. (2011). A case report on peripheral cementifying fibroma. *Journal of Indian Academy of Dental Specialists*, 2, 43-5.
4. Sheikhi M, Mosavat F, Jalalian F, Rashidipoor R. (2013). Central cementifying fibroma of maxilla. *Dent Res J*, 10, 122-5.
5. Chinna S, Rathore AS, Ahuja P. (2011). Peripheral ossifying fibroma of gingiva: A case report. *International Journal of case reports and images*, 2, 21-4.
6. Buchner A, Hansen LS. (1987). The histomorphologic spectrum of peripheral ossifying fibroma. *Oral Surg Oral Med Oral Pathol*, 63, 452- 461.

7. Cuisia ZE, Brannon RB. (2001). Peripheral ossifying fibroma- a clinical evaluation of 134 pediatric cases. *Pediatr Dent*, 23, 245-248.
8. Bodner L, Dayan D. (1987). Growth potential of peripheral ossifying fibroma. *J Clin Periodontol*, 14, 551-554.
9. 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.
10. Neville BW, Damm DD, Allen CM, Bouquot JE. (2002). Oral and maxillofacial pathology. 2nd ed. Philadelphia: WB Saunders Co, 451–2.
11. Pendyala G, Joshi S, Marawar PP, Pawar B, Mani A. (2012). Peripheral Ossifying fibroma:A case report. *Parvara Med Rev*, 4(2), 27-30.
12. Bhaskar SN, Jacoway JR. (1966). Peripheral fibroma and peripheral fibroma with calcifi cation: Report of 376 cases. *J Am Dent Assoc*, 73, 1312-20.
13. Kenney JN, Kaugars GE, Abbey LM. (1989). Comparison between the peripheral ossifying fibroma and peripheral odontogenic fibroma. *J Oral Maxillofac Surg*, 47(4), 378–82
14. Das S, Das AK. (1993). A review of pediatric oral biopsies from a surgical pathology service in a dental school. *Pediatr Dent*, 15(3), 208–11.
15. Iqbal Ali, Gazala Parveen, Sameer Singh, Manish Dubey, Akheel M.D. (2014). Peripheral Ossifying Fibroma of Maxilla: A case report & Review. *Journal of Head & Neck physicians and surgeons*, 2(2), 128-35.
16. Yip WK, Yeow CS. (1973). A congenital peripheral ossifying fibroma. *Oral Surg Oral Med Oral Pathol*, 35(5), 661–6.
17. Kohli K, Christian A, Howell R. (1998). Peripheral ossifying fibroma associated with a neonatal tooth: case report. *Pediatr Dent*, 20(7), 428–9.
18. Zhang W, Chen Y, An Z, Geng N, Bao D. (2007). Reactive gingival lesions: a retrospective study of 2,439 cases. *Quintessence Int*, 38(2), 103–10.
19. Kumar SK, Ram S, Jorgensen MG, Shuler CF, Sedghizadeh PP. (2006). Multicentric peripheral ossifying fibroma. *J Oral Sci*, 48(4), 239–43.
20. Terry Farquhar, Jennifer Mac Lellan, Heather Dyment, Ross D. Anderson. (2008). Peripheral Ossifying Fibroma: A Case Report. *Journal of Canadian dental association*, 74, 809-12.
21. Santosh Kumar R,Sateesh C.P, Shreedhar A. (2011). Peripheral ossifying fibroma: a rarity in elderly males. *Journal of dental sciences and research*, 2, 62-3.
22. Kapoor H, Arora R. (2014). A Massive Peripheral Ossifying Fibroma Uncommon Presentation of a Common Lesion. *Journal of Oral Health and Dental Management*, 13, 940-5.
23. Choubey S.et al. (2013). Peripheral cementifying fibroma:a clinical diagnostic dilemma. *BMJ Case Rep*, 1-3.
24. Batra H, Sharma N, Gulati N, Mohindra S. (2012). Peripheral Ossifying Fibroma - A Case Report. *Indian Journal of dental sciences*, 4, 70-2.
25. Chawla, et al. (2014). Diode laser for excisional biopsy of peripheral ossifying fibroma. *Dental Research Journal*, 11, 525-30.
26. Eversole LR, Rovin S. (1972). Reactive lesions of the gingiva. *J Oral Pathol*, 1, 30-8.
27. Pal S, Hegde S, Ajila V. (2012). The varying clinical presentations of peripheral ossifying fibroma: A report of three cases. *Rev Odonto Cienc*, 27(3), 251-255.