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Peripheral Cement Ossifying Fibroma: A Case Report

Dr. Saarika Suresh[1], Dr. Anamika Bharati[2], Dr. Divya Rao[3],
[1]*M.D.S Pediatric and Preventive Dentistry*
[2]*M.D.S 3rd Year Department of Pediatric and Preventive Dentistry Saraswati Dental College; Lucknow*
[3]*M.D.S Pediatric and Preventive Dentistry*
Corresponding author: Dr. Saarika Suresh

Abstract:
Peripheral cemento-ossifying fibroma(PCOF) is a focal, reactive, non-neoplastic tumor-like growth of soft tissue commonly arising from the region of the interdental papilla. it is a relatively rare tumour classified between fibroosseous lesions. It predominantly affects adolescents and young adults, with peak prevalence between 10 and 19 yrs. The diagnosis is often challenging as the lesion act as other reactive lesions of gingiva. Complete excision with curettage of the adjacent tissues are essential for prevention of its recurrence. Here, we present case of peripheral cemento-ossifying fibroma in a pediatric patient along with its management.
Key words: *Peripheral Cemento-ossifying fibroma (PCOF), reactive gingival lesions, cemento-fibroma, gingival growth,*

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I. Introduction:

Gingival enlargement, particularly those belonging to the reactive group is frequently encountered in the oral cavity in the daily practice. Reactive lesions such as pyogenic granuloma, peripheral giant cell granuloma, irritational/traumatic fibroma and peripheral ossifying fibroma are innocuous in nature, rarely presenting with aggressive clinical features [1]. Amongst these lesions peripheral ossifying fibroma [POF] is an infrequently occurring focal, reactive, non-neoplastic tumor-like growth of the soft tissue that primarily arises from the interdental papilla [2].

It has been known by various synonyms in literature. Shepherd first reported this entity in 1844 as "alveolar exostosis". Epulis, peripheral fibroma with calcification, calcifying fibroblastic granuloma, peripheral cementifying fibroma, peripheral fibroma with cementogenesis, and peripheral cemento-ossifying fibroma are the names that have been used in the literature.[3]

PCOF holds pediatric significance that requires early recognition and treatment by a pediatric dentist. Therefore, the purpose of this paper is to highlight a case of a pediatric patient having PCOF along with its management.

II. Case Report:

A 8 year old male patient came to the Department of Pedodontics with the chief complaint of swelling in upper front tooth region of jaw since 6 months.

There were no associated symptoms and the lesion had gradually increased in size over the time. On clinical evaluation, a multi lobulated mass which was pink to pinkish white in colour extending from base of frenal attachment to middle third of 51,61 of approximately 1.2 x 0.8 cm size was present. On palpation, it was firm, non compressable and non-tender (Figure 1).

Radiographic examination (IOPAR) in relation to 51, 52 revealed ill-defined complete resorption of the tooth 51 and partial resorption of the tooth 61 but no apparent underlying bone involvement was seen. Provisional diagnosis of PCOF was made (Figure 2). Clinically, the differential diagnosis included pyogenic granuloma, fibrous hyperplasia, peripheral ossifying fibroma and peripheral giant cell granuloma.

It was decided to treat the lesion by excisional biopsy or surgical excision (Figure 3). Following a thorough oral prophylaxis the lesion was completely excised under local anaesthesia (1:100000). This was followed by the extraction of involved tooth. Since the tooth 61 also showed some stages of resorption, it was further decided to extract both the deciduous tooth. The tissue removed was submitted for histopathological examination (Figure 4).

Regular follow-up was done at 1 week which demonstrated remarkable healing. At 1-month follow-up complete healing of the lesion was seen (Figure 5). The patient was reviewed at 3,6 and 12 months for any signs of recurrence and maintenance of meticulous oral hygiene.

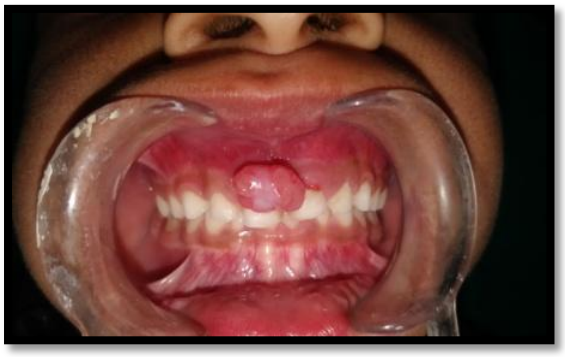

Figure 1: pre-operative view of the lesion

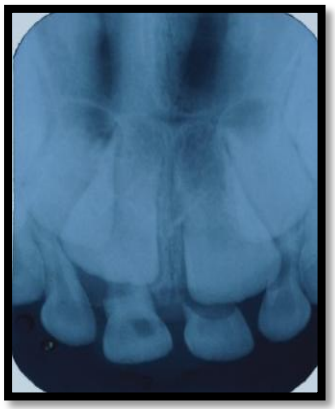

figure 2: IOPAR i.r.t 51,61

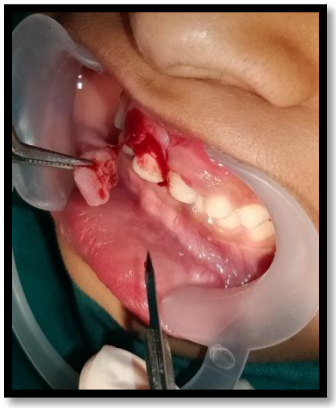

Figure 3: excision of the lesion

figure 4: excised mass

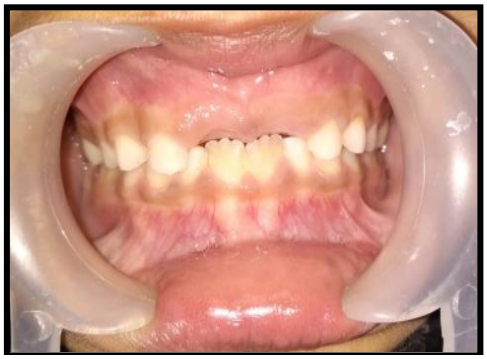

Figure 5: follow-up

III. Discussion:

Intraoral ossifying fibromas have been described in the literature since the late 1940s. Many names have been given to similar lesions, such as epulis, peripheral fibroma with calcification, peripheral ossifying fibroma, calcifying fibroblastic granuloma, peripheral cementifying fibroma, peripheral fibroma with cementogenesis and peripheral cemento-ossifying fibroma. The sheer number of names used for fibroblastic gingival lesions indicates that there is much controversy surrounding the classification of these lesions. [4,5]

Peripheral cemento-ossifying fibroma (PCOF) accounts for 3.1% of all oral tumors and for 9.6% of gingival lesions. It has a higher predilection for females. It may occur at any age range, but predominantly affects adolescents and young adults, with a peak prevalence between 10 and 19 years.[6]

The histopathological report revealed pseudo –epitheliomatous hyperplastic, para keratinised st. squamous ep. overlying a moderate dense and connective tissue stroma which comprised of dense bundle of collagen fibres along with plump to spindle shaped fibroblasts. The dense and patchy distribution of abundant chronic inflammatory cells chiefly composed of lymphocytes. plasma cells and macrophages were also seen.

Since the etiopathogenesis of peripheral ossifying fibroma is uncertain, an origin from cells of periodontal ligament has been suggested. The reasons for considering periodontal ligament origin for peripheral ossifying fibroma include exclusive occurrence of peripheral ossifying fibroma in the gingiva (interdental papilla), the proximity of gingival to the periodontal ligament, and the presence of oxytalan fibres 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 a foreign body in the gingival sulcus. Chronic irritation of the periosteal and periodontal membrane causes metaplasia of the connective tissue and resultant initiation of formation of bone or dystrophic calcification. It has been suggested that the lesion may be caused by fibrosis of the granulation tissue [7].

The radiographic features of POF may range from no change to destructive changes depending on the duration of the lesion. In certain cases, superficial erosion of underlying bone, cupping defect and focal areas of radiopaque calcifications at the center of the lesion can be seen [8]. Since the present case was in relation to deciduous tooth, the resrption factors were considered normal in relation with tooth no 51, 61

The preferred treatment is surgical, consisting of resection of the lesion, as was performed in this case. Healing was uneventful and the patient has remained asymptomatic since 1 year. If correctly managed, Prognosis is excellent and recurrence is rare.[9] The recurrence rate of 8% to 20% is probably due to incomplete removal of the lesion, repeated injury or persistence of local irritants.[10] Due to the recurrence rate of the POF it is essential to obtain a histologic diagnosis for this lesion, as is recommended for all reactive gingival lesions.

IV. Conclusion:

Peripheral cemento-ossifying fibroma is a non-neoplastic enlargement of the gingiva that is classified as a reactive hyperplastic inflammatory lesion. It is possible to misdiagnose PCOF from the other reactive lesions arising from the gingiva having a similar clinical picture. Therefore, histopathological examination is must for an accurate diagnosis and for proper management. We describe a case of PCOF in a 11-year-old male, with PCOF in maxillary anterior region on the labial surface. Complete excision is essential for prevention of its recurrence. Also, Close postoperative follow-up is required because of the growth potential for incompletely removed lesions.

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