A CASE REPORT OF PERIPHERAL OSSIFYING FIBROMA.

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Abstract: Peripheral ossifying fibroma (POF) is one of the inflammatory reactive hyperplasia ofgingiva. It represents a separate clinical entity rather than a transitional form of pyogenic granulo maands hares unique clinical character is tics and diversehis to pathological features. Here we present a case of POF in a 27-year-old male patient in the mandibular left anteriorgingiva. Differential diagnosis and some interesting facts of POF are discussed.

Keyword: fibroma, hyperplasia, overgrowth, calcification.

Introduction:

Many types of localized reactive lesions may occur on the gingiva, including focal fibrous hyperplasia, pyogenic granuloma, peripheral giant cell granuloma and peripheral ossifying fibroma (POF). It is widely considered that this lesion originates from the cells of the periodontal ligament and may arise as a result of such irritants as trauma, microorganisms, plaque, calculus, restorations and dental appliances.[1] One such reactive lesion is the peripheral ossifying fibroma (POF), 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. [2]Clinically, POFs are sessile or pedunculated, usually ulcerated and erythematous or exhibit a colour similar to the surrounding gingiva. POF is an occasional growth of the anterior region of mandible and accounts for 3.1% of all oral tumours and 9.6% of the gingival lesions. [3]POFs are usually less than 1.5 cm in diameter, and diagnosis can be made by clinical inspection and biopsy. POF shows a clinically benign behavior. Incidences of recurrence have been put at 16–20% . The reasons for recurrence include incomplete removal of lesion,failure to eliminate local irritants, and difficulty in access during surgical manipulation due to intricate location of POF being present usually at interdental areas. Deep excisions have been preferred for recurrences.[4]

Case report:

A 27 year old male patient, reported to our department of oral medicine and radiology with a chief complaint of moderately large growth in lower front teeth region. Medical history was insignificant. The patient was from low socioeconomic class. History revealed that a small nodule appeared 1year ago, which was initially painless and increased in size and attained present size. It caused difficulty in mastication and speech. Extra oral examination revealed that facial symmetry seen, lips were competent, no abnormalities detected in TMJ, lymph nodes were non-tender and non-palpable.

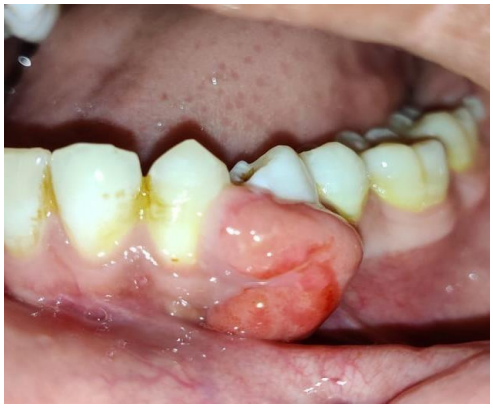

Fig.1 Over growth extending from distal surfaceof 33 to mesial surface of 35 antero posteriorly.

On intraoral examination, the patient's oral hygiene was considerably poor, which may be due to poor oral hygiene awareness and due to adverse habits. A single, oval, unilateral over growth was seen in relation with 33 and 34. Size approximately 2x3 cm. Over growth extending from distal surface of 33 to mesial surface of 35 anteroposteriorly**. [Fig 1]**The colour of overgrowth was pale pink. The surface was nodular and irregular, with no ulceration. The growth was considerably hard in consistency, sessile and not easily movable. Clinicalappearance and consistency was of a hard fibrous growth, which therefore led to a provisional diagnosis of peripheral calcifying fibroma or peripheral odontogenic fibroma (POdF). The differential diagnosis consisted of irritation fibroma, pyogenic granuloma and peripheral giant cellgranuloma (PGCG).

Intraoral periapical radiograph was taken,**[Fig.2]** which revealed erosion of the crest of bone. The possible reason of crestal bone erosion in the area may be long-standing plaque-induced inflammation and constant pressure of the growth.

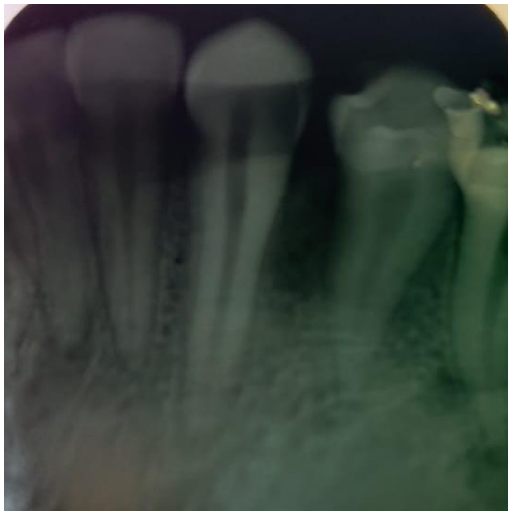

Fig. 2 IOPA revealed erosion of the crestal bone.

In a phase 1 periodontal treatment scaling was carried out. After proper counseling procedure, consent for the surgical procedure was obtained from the patient. Haematological investigation was carried out before the surgical procedure.

Under local anesthesia, the whole growth was excised and the underlying surface was thoroughly curetted up to deepest possible tissue. Then the excised tissue was sent for his to pathological examination. **[Fig. 3]** A radiograph of the excision tissue was taken which showed evidence of faint, irregular radio pacities**. [Fig.4]**

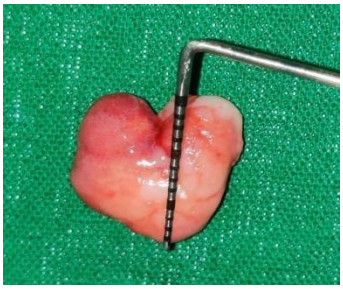

Fig.3 Excised Tissue

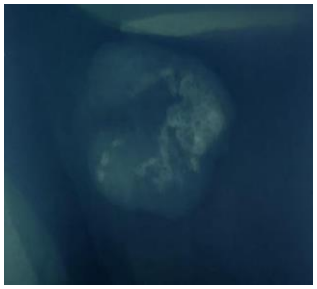

Fig.4 IOPA of the excised Tissue showing irregular radioopacities

After controlling bleeding, periodontal dressing was applied and the patient was discharged with prescription of antibiotics, analgesic and chlorhexidine mouth wash**. [Fig.5**] Follow-up visits were arranged after 1 week,followed by 1 month, 3months, 6months and1year and 2years. Recall was necessary to rule out recurrence of the lesion, since it eroded alveolar bone and appeared aggressive.

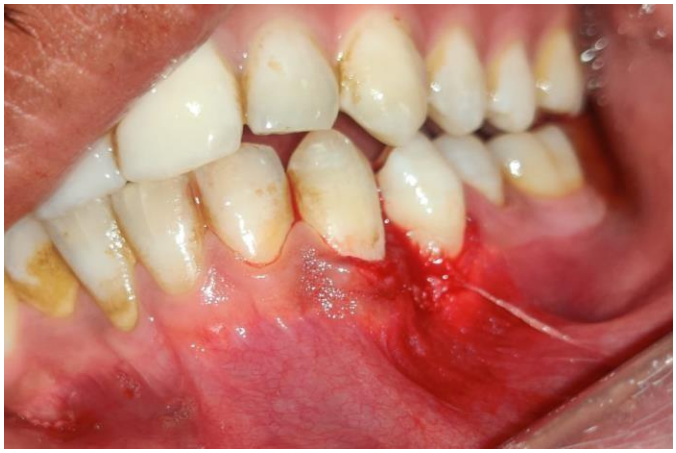

Fig. 5 Follow up examination after 1 week showing healing area.

The tissue was sent for the histopathologic

evaluation. The report revealed an overgrowth of fibrous tissue. The connective tissue of the growth comprised of bundles of collagen fibers in a cellularstroma. These cells were also arranged in a whirl shaped around irregular mineralization foci in the center. Chronic inflammatory cell infiltrate was seen evenly distributed in whole area and the cells comprised mainly of lymphocytes and plasma cells.

The calcified areas resembled cementum-like and bone-like ossifying areas. The histo pathologic diagnosis was peripheral ossifying fibroma.

Discussion:

In oral cavity periodontium can show different types of focal overgrowths. These lesions arise due to overgrowth and proliferation of different components of connective tissue in periodontium, i.e. the fibers, bone, cementum, blood vessel or any particular type of cell.[3]

Peripheral ossifying fibroma occurs mostly in craniofacial bones and 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, and the peripheral type occurs on the soft tissues overlying the alveolar process.[4,5,6]In majority of cases there is no underlying bone involvement visible on the radiograph. However, on rare occasions, there may be superficialerosion of bone.[7] Histogenesis remains controversial and there are two schools of thought proposed to understand the his to genesis of POF.

1. POF may initially develop as pyogenic granuloma that undergoes subsequent fibrous maturation and calcification. It represents the progressive stage of the same spectrum of pathosis. POF is due to inflammatory hyperplasia of cells of periodontal ligament/ periosteum. Metaplasia of the connective tissue leads to dystrophic calcification and bone formation.[5]

Hormonal influences may play a role, as it has higher incidence amongfemales, increasing occurrence in the second decade and declining incidence after the third decade(Kenney et al,1989). In only 2% of cases, neoplasm was considered in its differential diagnosis (Zhang et al, 2007). The rate of recurrence has been reported to vary from 8.9%to20 % (Bhaskar & Jacoway, 1966;Kenneyet al,1989; Eversole & Rovin,1972).[7] Radiographically radiopaque foci within the soft tissue tumour mass are observed if the calcified element is significant, but in this case no radiopaque foci were seen but only shadow of the lesion was seen probably because the lesion was of short duration of time.[6]Clinical differential diagnosis for gingival growths includes fibroma, peripheral giant cell granuloma, pyogenic granuloma, peripheral odontogenic fibroma, and POF. The definitive diagnosis of POF is made by the histologic evaluation of biopsy specimen.[8,9,10]Although peripheral giant cell granuloma has clinical features similar to those of POF, the latter lacks the purple or blue discoloration commonly associated with peripheral giant cell granuloma and radiographically shows small flecks of calcification. Thus, the diagnosis based only on clinical aspects can be difficult, and histopathological examination of the surgical specimen obtained by excisional biopsy is mandatory for an accurate diagnosis of POF.[9] Histopathologically, there is also a wide spectrum of changes changeable

from chronically, well-off cellular granulation tissues to moderately noninflamed, avascular masses of collagen.[13]Treatment includes local surgical excision and oral prophylasis. Follow-upis essential because of the recurrence rates varying from 8 to 20%.[8]

Conclusion:

Clinically it is difficult to differentiate between most of the reactive gingival lesions particularly in the initial stages. Regardless of the surgical technique employed, it is important to eliminate the etiological factors and the tissue has to be histologically examined for confirmation. Many cases will progress for long periods before patient seeks treatment because of the lack of symptoms associated with the lesion. Discussion of the differential diagnosis should be done tactfully to prevent unnecessary distress to the patient and family. POF is clinically often mistaken for pyogenic granuloma and peripheral giant cell granuloma. Radiological and histopathological diagnosis is required for confirmation.

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