

Peripheral Ossifying Fibroma of Anterior Mandible - A Case Report and Review of Literature

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Abstract: Peripheral ossifying fibroma is a benign gingival overgrowth characterized by a high degree of cellularity usually exhibiting bone formation, although occasionally cementum-like material or rarely dystrophic calcification may be found instead. The peripheral ossifying fibroma can occur at any age, although it appears to be somewhat more common in children and young adults. Here we are presenting a case of peripheral ossifying fibroma in the anterior mandible region in a 32 year old female.

Keywords: Cementum, Fibroma, Gingiva, Periodontal, Peripheral

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I. Introduction

There are different types of focal overgrowths which may occur on the gingiva, such as the peripheral giant cell granuloma, the giant cell fibroma, the pyogenic granuloma, the simple fibroma and peripheral ossifying fibroma. Peripheral ossifying fibroma usually arises from irritants such as trauma, microorganisms, plaque, calculus, faulty restorations, and dental appliances^{1,2}. Females are more commonly affected, and anterior maxilla is the most prevalent location³.

The clinical appearance of the lesion is characteristic but not pathognomonic. It is a well-demarcated focal mass of tissue on the gingiva, with a sessile or pedunculated base. It is of the same color as normal mucosa or slightly reddened. The surface may be intact or ulcerated⁴.

II. Case Description And Results

A 32 year old female reported with c/o painless growth in the mandibular anterior region. Medical history was not significant. Socio-economic status of the patient is low. The growth appeared 3 months ago, which has not increased since then. Patient has no adverse habits such as chewing tobacco, smoking etc. She has history of brushing her teeth with neem stick.

On examination a pale pink swelling was seen on the lingual and buccal aspect of 31,41,42,43 & 44. The growth lingually was of 3cm x 2cm in size involving the floor of mouth. Consistency was firm to hard. The growth was sessile and non movable. Buccally, there was small nodular erythematous growth related to 41 of size 1cm x 1cm. Cervical lymphadenopathy was absent.(fig.1)

On periodontal examination marginal and papillary gingival was inflamed. Calculus was ++, Grade 1 mobility with respect to 32, 42 & grade 2 mobility with respect to 41, 31.

Intraoral periapical radiograph shows ill defined radiolucency in the mandibular anterior region related to 31,41,42,43 with distal tilting of 42. So phase one periodontal treatment was performed. An incisional biopsy was taken. Results on histopathological examination reveal peripheral ossifying fibroma. After a month when the patient recalled, excision of the lesion was planned. Lesion was excised under local anaesthesia with 2 % lignocaine hydrochloride with 1:80,000 adrenaline.(fig.2)

On histopathological examination the Haematoxylin and Eosin stained soft tissue section in high power view showed many multinucleated giant cells with deep eosinophilic stained cytoplasm interspersed in the connective tissue. Many plump, highly active fibroblasts interspersed between collagen fibres; diffuse and dense chronic inflammatory cell infiltrate mainly composed of lymphocytes and plasma cells. Low power view showed many irregular shaped bony trabeculae connected to each other seen dispersed in the connective tissue suggestive of ossification. The overall features are suggestive of peripheral ossifying fibroma.

On follow up of four months there is no evidence of recurrence of the lesion (fig.3).

III. Discussion

Lesions arising from the gingiva can be neoplastic and non- neoplastic. Peripheral ossifying fibroma (POF) is one among the non-neoplastic lesion of gingiva. 9.6% of gingival lesions are peripheral ossifying fibromas. POF account for 3.1 % of oral tumors^{5, 6}.

Histologically the surface of the peripheral ossifying fibroma exhibits either an intact or, more frequently, an ulcerated layer of stratified squamous epithelium. The bulk of the lesion is composed of an exceedingly cellular mass of connective tissue comprising large numbers of plump proliferating fibroblasts intermingled throughout a very delicate fibrillar stroma.. Several forms of calcification occur in this particular lesion, the calcification may be in the form of single or multiple interconnecting trabeculae of bone or osteoid⁴.

POF has been suggested to origin from cells of periodontal ligament,because of its excessive occurrence in the gingival interdental papilla, the proximity of the gingival to periodontal ligament, the presence of oxytalan fibres within the mineralized matrix of some lesion, and the fibrocellular response in periodontal ligament^{1, 7}. Migration of teeth with interdental bone destruction has been reported⁸. Though there is no apparent underlying bone involvement associated with the lesion, however superficial erosion of bone is noted occasionally^{1, 7, 8}.

Treatment includes local surgical excision and oral prophylaxis⁹. Microscopic examination should be done for confirmation of diagnosis .As the lesions do recur with some frequency, so regular follow up of the patients is essential. Recurrence is due to incomplete excision and/or due to persistence of local factors. The extraction of adjacent teeth is sometimes needed. In the series of Cundiff, 16% of the cases recurred¹⁰, while in a series of 50 cases reported by Eversole and Rovin, the recurrence rate was 20%.

IV. Figures



Fig 1.Pre-operative view of the lesion



Fig 2.Surgical excision of the lesion



Fig 3. Follow up after 4 months

V. Conclusion

Though peripheral ossifying fibroma is non-neoplastic in nature but treatment should aim at wide surgical excision and regular follow up. It can be differentiated from other gingival tumors by proper clinical and histopathological examination.

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