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Peripheral Ossifying Fibroma: A Clinical And Histomorphologic Case Report

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Abstract : *The present case is of peripheral ossifying fibroma in the mandibular anterior gingiva of a 30 year old female. The lesion was asymptomatic, reddish, firm and penduclated. The lesion was surgically excised and at follow up of 1 year showed no recurrence. Histological assesment showed connective tissue stroma with osseous like calcification. Suggestive of peripheral ossifying fibroma.*
Keywords: *peripherhal ossifying fibroma, gingival overgrowth*

I. Introduction

Peripheral ossifying fibroma is defined as any "solitary growth on the gingiva thought to arise from periodontal ligament and more commonly at the region of interdental papillae"[1]. There are numerous histologically different types of focal overgrowth which may occur on the gingiva such as the peripheral giant cell granuloma, the giant cell fibroma, the pyogenic granuloma and the present lesion, which in the past has been known by variety of names such as peripheral odontogenic fibroma, peripheral cementifying fibroma, calcifying and ossifying fibroid epulis, peripheral fibroma with calcification. The term most commonly used are peripheral ossifying fibroma' and 'peripheral odontogenic fibroma [2]. The term peripheral ossifying fibroma was coined by Eversole and Rovin in 1972[3]. Females are most commonly affected then males[1]. Maxilla is affected more than mandible and anterior part of gingiva is more commonly involved[1,2]. Common causes are plaque, calculus, ill fitting dentures, fillings and trauma[2]. Clinically, the appearance of the lesion is characteristic but not pathognomonic. It is a well demarcated focal mass of tissue on the gingiva, with sessile or pedunculated base[5]. It is slightly reddened with intact surface.

The definitive diagnosis is based on histological examination with connective tissue stroma, fibro- cellular with proliferating fibroblasts and dense bundles of collagen fibres. Mineralization is seen in the form of calcification and ossification.Surgical excision is the treatment of choice, though the recurrence rate is 20%[3,6].

II. Case Report

A 30 year old female patient reported to MGVs KBH Dental College and hospital, Department of Periodontics, with a chief complaint of a painless swelling in the lower anterior teeth region since 8-9 months. History revealed that the lesion started as a small nodule and has gradually increased to the present size. Patient complained of bleeding gums since past 1 year. No relevant systemic, family and medical history. Extra oral examination revealed normal facial feature. Oral hygiene was fair. There was an oval, hard, pedunculated growth located on the labial surface of the gingiva in relation to 31 and 41 region; measuring approximately 158 mm in diameter (Figure:1). The overlying mucosa was pale pink in color, with no ulcerations. On palpation, the inspection findings were confirmed. The mass was firm in consistency, pedunculated, non-tender and no pulse was felt .Periodontal examination showed moderate amount of supra and sub-gingival calculus and probing pocket depth of 6mm in relation to 31 and 41region. Tooth number 31, 41 showed Grade I mobility and IOPA revealed cupping shape bone loss (Figure: 2). Routine hemogram was found to be normal. A provisional diagnosis of peripheral ossifying fibroma was made. On the basis of the clinical appearance the differential diagnosis included irritational fibroma, peripheral gaint cell granuloma, calcifying fibroma or pyogenic granuloma. The treatment plan included scaling and root planing (Phase I therapy). Consent for the surgical procedure was obtained. Under local anaesthesia with adrenalin 1:80000, crevicular incision was given extending from 32 to 42 , full thickness mucoperiosteal flap was raised, through debridement and scaling and root planing followed by osseous recontouring was done. An excisional biopsy was performed (Figure: 3,4). After achieving hemostasis, with 3' 0 silk direct loop suture was given (Figure: 5). The patient was discharged with a prescription of Amox 500mg 3 times a day for five days, analgesics ibuprofen 400mg 2 times for five days and

chlorhexidine mouth wash, 10 ml 2 times a day for 14 days and was recalled after one week for a follow up. The one week follow up was uneventful with the surgical site showed signs of healing (Figure: 6).The excised tissue was sent for histopathologic analysis. A six month follow up followed by one year postsurgical follow up of the patient showed no evidence of recurrence (Figure:7,8) .

III. Histopathology

Haematoxylin & Eosin stain section shows parakeratinized stratified squamous epithelium with long and slender rete ridges. Epithelium is ulcerated and atrophic at places. The connective tissue stroma is fibro-cellular with proliferating fibroblasts and dense bundles of collagen fibers at places. Mineralization is seen in the form of calcification and ossification (Figure: 9). Calcification is seen in the form of tiny globules and large irregular masses. Well formed bony trabeculae seen with osteoblastic riming, osteocytes in lacunae and osteoid formation (Figure: 10). Focal moderate chronic inflammatory cell infiltrate is seen chiefly lymphocytes and plasma cells.

Thus, a final diagnosis of peripheral ossifying fibroma was established correlating the clinical findings as well as the microscopic features.

IV. Discussion

The present case is a rare case of peripheral ossifying fibroma. Initially it was diagnosed as pyogenic granuloma based on clinical appearance and by the fact that achieving homeostasis was difficult at the time of excisional biopsy. So it was considered as a vascular lesion.

Peripheral ossifying fibroma is a reactive hyperplastic, solitary overgrowth of gingiva and alveolar mucosa[1,2,6]. It arises from periodontal ligament and most commonly from the interdental part of the gingiva. In the present case typical clinical feature was seen the lesion was pedunculated and the stalk extended interdentally 31-41 region as shown in (Figure: 1). The etiopathogenesis remains unclear but in present case after reflection of the flap chunks of subgingival calculus was encountered which might be the cause of irritation and due to crowding of upper anterior there was continuous trauma to 41 due to which radiographically widening of periodontal ligament space was evident in IOPA as shown in figure 2. Peripheral ossifying fibroma commonly affects female, maxillary anterior region. Maxilla is most commonly affected compared to mandible and in the present case mandibular anterior region was affected. Complete removal of peripheral ossifying fibroma is followed by the recurrence rate which has been considered high for reactive lesions. The rate of recurrence has been reported to vary from 8.9% to 20%[6]. It probably occurs due to incomplete initial removal, repeated injury or persistence of local irritants. The average time interval for the first recurrence is 12 months[7]. For a definitive diagnosis the biopsy specimen was subjected to the histopathologic examination and the final diagnosis of peripheral ossifying fibroma was made. In 1872 Menzel first described the lesion ossifying fibroma, but its terminology was given by Montgomery in 1927[8]. There are two types of ossifying fibroma, the central and the peripheral. Peripheral ossifying fibroma is not a counterpart of the central ossifying fibroma but a reactive lesion of the gingiva[9]. The term peripheral ossifying fibroma was given in the year 1982 by Gardner for a lesion that is reactive in nature and is not the extra osseous counterpart of a central ossifying fibroma (COF) of the maxilla and mandible. So in order to avoid recurrence in the present case surgical excision was done by raising the full thickness mucoperiosteal flap procedure and the lesion was cut at the base and followed by through debridement removal of local irritant factors was done by scaling and root planing. Trauma was relieved by coronoplasty with 31, 41. Flap was approximated with 3`0 silk suture and the case was followed up for six months followed by one year postsurgical follow up to check for recurrence of the lesion.

V. Conclusion

The conclusion of peripheral ossifying fibroma is made on basis of histological examination obtained from the excisional biopsy of the specimen and no recurrence was seen at the follow up of one year.

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Figure: 1 Pre operative front view

Figure 2: IOPA shows erosion of the bone between 3141.

Figure 3: Cerivcular incision was given to raise a flap

Figure 4: Excised tissue after raising full thickness mucoperiosteal flap

Figure 5: Direct loop sutures are placed with 3`0 silk suture

Figure 6: After suture removal

Figure 7: After 6 months

Figure 8: 1 year follow up