Case Report

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Giant Peripheral Ossifying Fibroma of Maxilla

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Abstract

Peripheral ossifying fibroma (POF) is a reactive lesion of the gingival tissues that predominantly affects women and is usually located in the maxilla anterior to the molars. It is considered to origin from the cells of the periodontal ligament in response to local irritating factors.The definitive diagnosis is established by histological examination, which reveals the presence of cellular connective tissue with focal calcifications. Complete surgical excision is the treatment of choice. Here we report a case of a large peripheral ossifying fibroma in a 52 year old female.

Keywords: Gingival Growth; Epulis; Fibrosed Pyogenic Granuloma; Peripheral Ossifying Fibroma.

Introduction

Peripheral ossifying fibroma (POF)accounts for around 9.6 % of all gingival lesions and 3.1% of all oral tumours [1]. It is a reactive lesion of the oral cavity which occurs as an overgrowth of gingiva due to factors like trauma or irritation.This lesion is included under term "epulis" which refers to a series of reactive gingival lesions often produced by irritating agents [4]. Peripheral ossifying fibroma is known by various names in the literature such as peripheral cementifying fibroma, calcifying or ossifying fibroidepulis, and peripheral fibroma with calcification [2].

POF mainly affects women in the second decade of life [3]. The lesions are most located anterior to the molars in the maxillary gingival region [6]. POF usually manifests as a well defined and slow growing gingival mass measuring under 2 cm in size and located in the interdental papilla region. Base of the lesion may be sessile or pedunculated [5]. Radiographic examination may show the presence of soft tissue shadow, interspersed with radiopaque areas suggestive of calcification [1]. The definitive diagnosis is based on the histological examination, with the identification of cellular connective tissue and the focal presence of bone or other calcifications [5,7].

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Case Report

52 year old female patient presented to the department of Oral Medicine and Radiology with the complaint of a painless soft tissue growth in the upper anterior region of three months duration. She gave a history of fall three months back hitting on anterior maxillary region. There was associated loosening of upper anterior teeth. Since then patient noticed a growth in relation to the anterior teeth which was gradually increasing in size. She reports occasional mild pain associated with upper anterior teeth.

Extraoral examination revealed a swelling in relation to the upper anterior teeth which was visible extraorally as the patient was unable to close her lips properly (Figure 1). Intraorally a solitary localized growth with well-defined borders in relation to labial aspect of maxillary central incisors was noted (Figure 2). Lesion was measuring approximately 3x3 cm. Growth seemed to arise from the interdental papilla displacing the central incisors laterally (Figure 3). The interdental papilla on the

palatal aspect was continuous with the lesion which exhibited mild thickening. Lesion grossly appeared smooth surfaced. Colour of overlying mucosa varied from pink to slightly blanched appearance along the surface of the lesion. The swelling was mildly tender and firm in consistency. On the basis of these findings a provisional diagnosis of a benign connective tissue neoplasm was made.The patient was referred for routine hematological and radiological investigations. The hemogram was within normal limits.

Intraoral radiograph shows laterally displaced 11 and 21 with severe interdental bone loss. Minute flecks of radiopacity were noted in the interdental region of 11 and 12 suggestive of calcification (Figure 4). Panoramic radiograph shows laterally displaced 11 and 21. Severe interdental bone loss noted. Minute flecks of radiopacitywere seen overlapping maxillary anterior region (Figure 5). Lateral skull radiograph revealed the soft tissue outline of the lesion with an irregular central mass of calcificationin relation to the labial aspect of upper incisors (Figure 6).

The histopathological examination of the excised lesion using haemotoxylin and eosin (HE) staining method at 10X magnification showed stratified squamous epithelium with psuedoepitheliomatous hyperplasia in many areas. Just beneath the epithelium there is condensation of connective tissue and proliferating plump fibroblasts in the form of a capsule. Presence of a cementoid like hematoxyphillic calculi as well as osteoid tissue noticed. These findings were suggestive of peripheral ossifying fibroma.At the one-year postsurgical follow-up the patient was asymptomatic, and there was no evidence of recurrence.

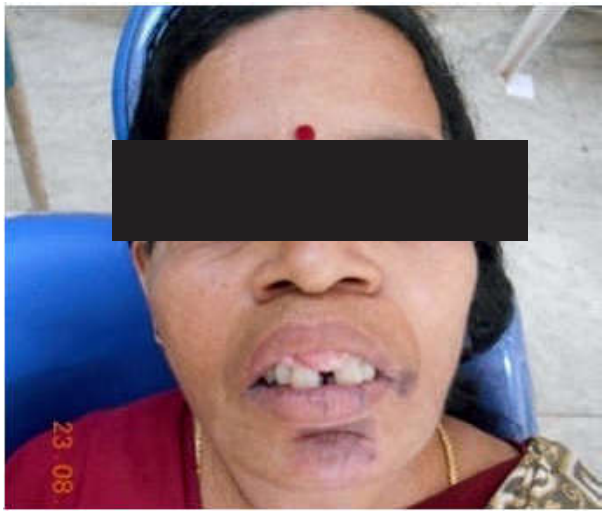

Fig. 1: Extra oral view showing lip incompetence due to the lesion on maxillary gingiva.

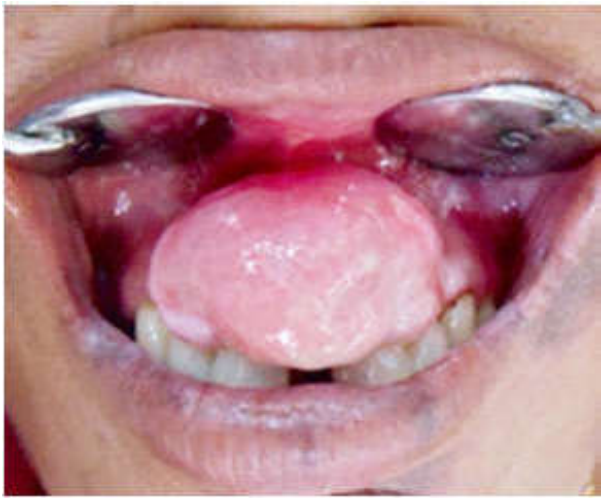

Fig. 2: Intra oral view showing the lesion in relation to the labial gingiva of 11 and 12.

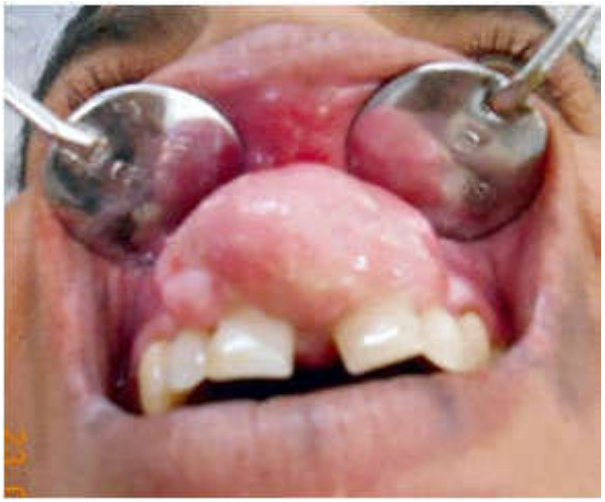

Fig. 3: Intra oral view showing lateral displacement of incisors and the lesion continuous with the interdental gingiva.

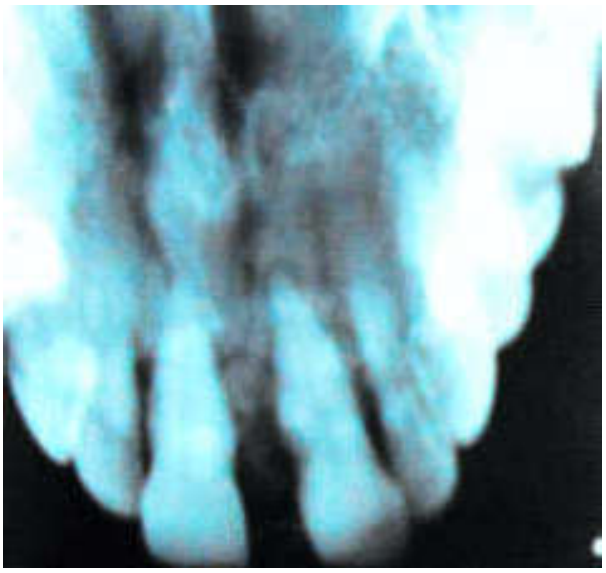

Fig. 4: Occlusal radiograph showing the flecks of radiopacity interdentally between 11 and 21.

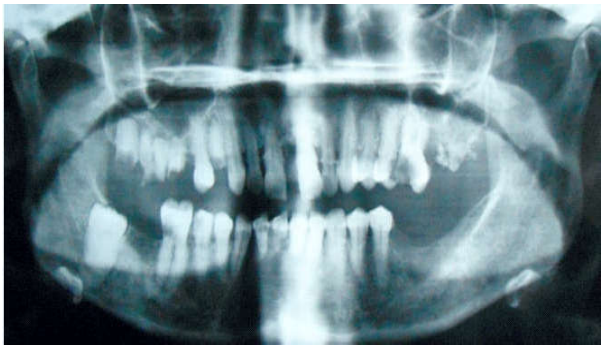

Fig. 5: Panoramic radiograph depicting the lateral displacement of 11 and 12 and irregular radiopacity overlapping them.

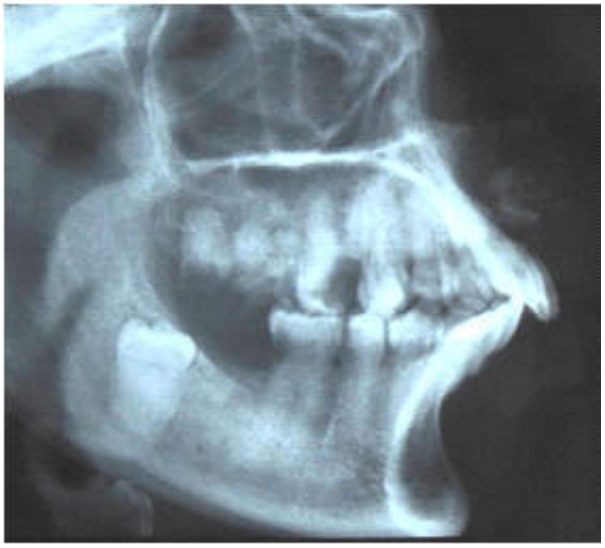

Fig. 6: Lateral skull view showing the soft tissue outline of the lesion. An irregular calcified mass noted in the center of the lesionlabial to the incisors.

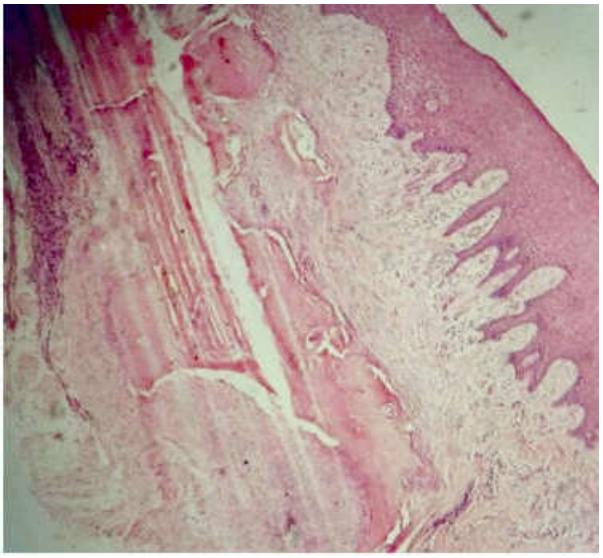

Fig. 7: Histopathology image showing fibrous connective tissue with varying fibroblast, myofibroblast and collagen content,sparse to profuse endothelial proliferation and mineralized material.

Discussion

Eversole and Rovin first coined the term Peripheral ossifying fibroma .They stated that, with the similar sex and site predilection of pyogenic granuloma, peripheral giant cell granuloma(PGCG) and POF, as well as similar clinical and histologic features, these lesions may simply be varied histologic responses to irritation [8]. However, recent reports suggest that the POF is totally a separate clinical entity [9]. The etiology of POF is attributed to the inflammatory hyperplasia of cells of periodontal ligament. This is supported by the fact that POF occurs exclusively in gingiva and by thepresence of oxytalan fibreswithin themineralizedmatrix [5]. Chronic irritation of the periosteal and periodontal membrane causes metaplasia of the connective tissue and result in initiation of formation of bone or dystrophic calcification [11]. The inflammatory reaction is said to occur due to trauma or other local irritants such as plaque, calculus, restorations or ill fitting dental appliances [2].

The highest incidence of peripheral ossifying fibroma is during second and third decades of life and females account for almost two-third of the cases reported [1]. Most cmmonly it occurs in the maxillary incisor region [5]. In our case, the lesion occurred in a 52-year-old female in the maxillary incisor region.

POF may present as a pedunculated nodule, or it may have a broad attachment base. The colour can range from pink to red. Ulcerations may be present but are not frequent [10]. Most of these lesions range from 1 to 2 cm in size, but there are fewreports of casesmore than 2 cms [11]. In our case, the lesion was 3X3cms in size. The teeth involved are usually unaffected but may show migration, mobility and delay in eruption of permanent teeth [1]. Tooth migration was seen in our case. Peripheral ossifying fibromas are usually solitary. Syndromes associated with multicentric POF are nevoid basal cell carcinoma syndrome, Multiple endocrine neoplasia type II, neurofibromatosis andGardner's syndrome [11].

The radiographic features may range from mild or no changes to destructive changes. In certain cases the lesioncould cause superficial erosion of underlying bone, cupping defect and focal calcifications at centre of lesion [12]. In our case well defined calcified mass was noted radiographically labial to maxillarycentralincisors within the lesion. The common lesions considered in the differential

diagnosis include pyogenic granuloma, peripheral giant cell granuloma,osteoma. Diagnosis was confirmed by histopathological evaluation.

The histopathological examination usually shows featuressuch as benign fibrous connective tissue with varying fibroblast, myofibroblast and collagen content, sparse to profuse endothelial proliferation and mineralized material that may represent mature lamellar or woven bone or dystrophic calcifications [10,13]. Occasionally inflammatory cell infiltration can also be seen. The histopathological picture was similar to the above in our case.The immunohistochemical profile of POF indicated that the proliferating cells are of a myofibroblastic nature i.e., cells sharing morphological characteristics with fibroblasts and muscle cells [5]. The most preferred choice of treatment for peripheral ossifying fibroma is conservative surgical excision.The rate of recurrence has been reported to range from 8.9 to 20% [9]. Recurrences can be treatedwith surgical excision.

Conclusion

In the present case report the clinical, radiographic and histopathologic features of POFis discussed. Clinically the lesion can be confused with other reactive gingival lesions of oral cavity. Radiography can be of some help in the diagnosis of POF but confirmatory diagnosis requires histopathologic examination. This report adds to the existing literature about the presentation of POF as a gingival mass from interdental papilla alongwith appearance of radiopacity in the anterior maxillary region.

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