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Peripheral Ossifying Fibroma of Gingiva in the Anterior Maxilla: A Rare Case Report

Abstract

Peripheral ossifying fibroma (POF) is a lesion involving the gingival tissues that predominantly affects women. The predominant area involved being the maxilla, particularly anterior to the molars. These lesions may arise as a result of irritants secondary to trauma, microorganisms, plaque, calculus, restorations and dental appliances. POF mainly affects women in the second decade of life (50% of all patients being between 5-25 years of age). The diagnosis is confirmed based on histological examination of the lesion. Conservative surgical excision is the treatment of choice, though the recurrence rate can reach up to 20%. We report a rare case of peripheral ossifying fibroma in a 16 year old male patient which was managed using lasers.

Key Words

Peripheral ossifying fibroma; anterior maxilla; laser

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INTRODUCTION

Peripheral ossifying fibroma (POF) is a reactive lesion arising from the gingival tissues.[1-5] The incidence of POF being up to 2% of all oral lesions that are biopsied.[1] Many types of localized reactive lesions may occur on the gingival tissues which includes focal fibrous hyperplasia, pyogenic granuloma, peripheral giant cell granuloma and peripheral ossifying fibroma (POF).[6-8] It was suggested that the most common gender involved being women particularly in the second decade of life (50% of all patients being between age group of 5-25 years). [1,2,5,9] The lesions are most often found involving the gingiva, commonly located anterior to the molars and in the maxilla.[1,2] Clinically, POF usually manifests as a slow-growing, well-defined gingival mass usually measures up to 2 cm in size and located in the interdental papilla region. The base of the lesion may be sessile or pedunculated, the color of the lesion may be identical to that of the gingiva or slightly reddish, and the surface may appear ulcerated.[1,2,5] Surgical excision is the treatment of choice, though the recurrence rate can reach up to 20%.[1,2,9]

CASE REPORT

A 16year old male patient reported to the department of Oral Medicine and Radiology with a chief complaint of a growth in the upper front teeth region since 3years. The swelling started as a small lump which gradually increased to attain the present size. No history of pain, bleeding and pus discharge. On general examination, patient was moderately built and nourished and all vital signs were within normal limits. Extra oral examination revealed no significant abnormalities (Fig. 1). Intraoral examination revealed a solitary soft tissue growth seen along the palatal aspect of 12 and 13 (Fig. 2). The lesion was measuring approximately 1.5×1cm mediolaterally and anteroposteriorly. It was extending from the free marginal gingiva anteriorly and extend about 1cm away from free gingiva to involve the attached gingiva posteriorly. Mediolaterally it was extending from the mesial aspect of 11 to the mesial aspect of 13. The surface of the growth appeared smooth, the color appeared same as the adjacent mucosa. The margins are well defined with a sessile base. On palpation the growth was soft to firm in consistency and non-tender. Based on the history and clinical examination a provisional diagnosis of Irritational fibroma was arrived. Peripheral ossifying fibroma, peripheral cementifying fibroma and peripheral giant cell granuloma were considered under differential diagnosis. After obtaining the informed consent, patient was subjected to Complete blood investigations, intraoral periapical radiographs and screening orthopantomograph. The blood investigation findings were within normal limits.

Fig. 1: Extra oral view

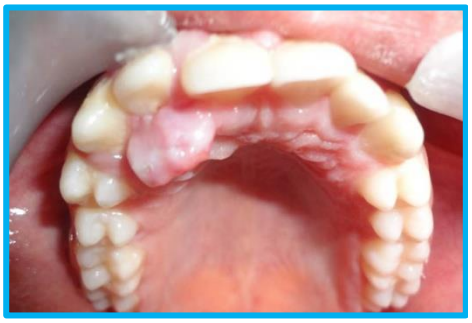

Fig. 2: Intra oral view

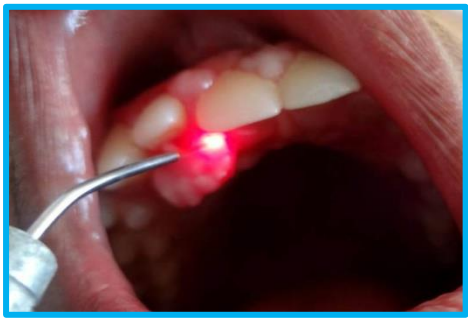

Fig. 3: Intraoperative view

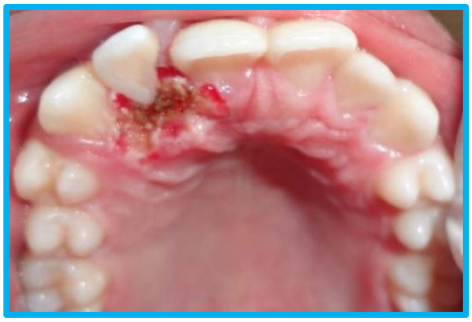

Fig. 4: Excision of the lesion

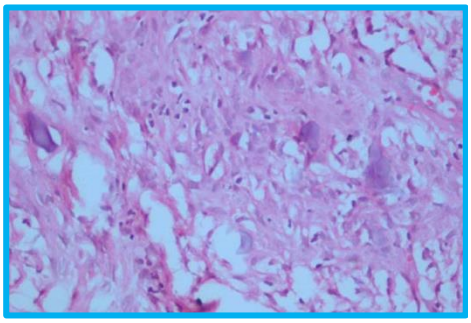

Fig. 5: Histopathological features

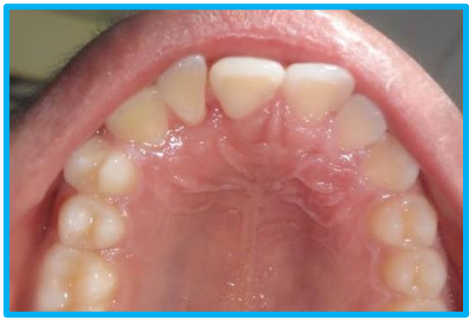

Fig. 6: Post-operative view

The intraoral periapical radiograph and orthopantomograph revealed no abnormality. An excisional biopsy was performed under local anesthesia using diode lasers (Fig. 3 & Fig. 4) and the specimen was sent for histopathological examination. Histopathological examination revealed, presence of parakeratinized stratified squamous epithelium with long rete ridges. The underlying connective tissue showed presence of numerous plump fibroblasts in a collagenous stroma. There was an evidence of ossifications and calcifications with few giant cells scattered in connective tissue (Fig. 5). These features suggested and confirmed the diagnosis as Peripheral Ossifying Fibroma. Patient was recalled for review every 3months to check for recurrence (Fig. 6). There was no recurrence of the lesion after 1year and the patient is still under follow up.

DISCUSSION

The term “epulis” is used to describe a series of reactive lesions involving gingival tissues often produced by irritating agents. The diagnosis is usually established based on the history, clinical findings and histopathological examination. With few similar clinical differences noted among the different disorders included under this term; these disorders include POF, peripheral fibroma, peripheral giant cell granuloma, and pyogenic granuloma.[10] Hence these lesions can be considered under differential diagnosis for POF. In a study conducted by Zahang *et al.*,[10] revealed the following prevalence values in 2,439 cases of epulis: peripheral fibromas (61.05%), followed by pyogenic granulomas (19.76%), POF (17.67%), and peripheral giant cell granulomas (1.52%). In comparison with the rest of the lesions POF is firmer and less friable. These lesions show a typical longer course. This explains the reason for the calcification and/or ossification of the lesion secondary to maturation of fibroblast to collagen tissue.[10] The present case was similar to these findings which was of 3 years duration and showed calcification. The POF has an obvious predilection for females, and its frequency of occurrence in

specific period of life can be because of factors like puberty and pregnancy secondary to the existence of hormonal changes in the development of POF has been suggested in the literature.[5,9] The rarity of the present case was its occurrence in a young male patient without any cause. The POF lesion is generally small and does not require imaging beyond radiographs.[8] Similarly the present case was subjected to radiologic investigations like Intraoral periapical radiographs and orthopantomograph, which revealed no significant findings. It has been suggested that POF would be a consequence of hyperplasia of the periodontal ligament. It may be accompanied by cell rests of Malassez, which could be incorporated into the lesions, thereby accounting for the POF variant that contains odontogenic epithelium (known as peripheral odontogenic fibroma).[2] It has been suggested that POF originates from the cells of the periodontal ligament for the following reasons, Because of its exclusive appearance in the gingiva in approximation to the periodontal ligament. Histologically, the POF appears to be a nonencapsulated mass of cellular fibroblastic connective tissue[8] of mesenchymal origin, covered with stratified squamous epithelium, which shows ulceration in 23%-66% of cases.[6] In some lesions the mineralized matrix contains oxytalan fibres. The loss of permanent teeth is inversely proportional to the age distribution of the lesions. The fibro cellular response in POF is similar to that of other reactive lesions of the gingiva originating in the periodontal ligament.[3,9] In the present case there was an evidence of ossifications and calcifications with few giant cells scattered in connective tissue. The mode of treatment for choice is conservative surgical excision[6] and scaling of adjacent teeth.[8] The present case was managed with lasers, since it has an advantage of bloodless field, better visualization, tissue surface sterilization, less post-operative pain and swelling, faster healing with increased patient acceptance. The recurrence rate has been reported at 8.9%[6] to 20%.[7] The present case was followed up for 6months and there was no recurrence of the lesion.

CONCLUSION

POF is considered as a slow growing, asymptomatic, with a limited growth potential. These lesions may remain unnoticed for long time before patients seek treatment since it is asymptomatic. We conclude that, being an oral physician POF should be considered under differential diagnosis in a slow growing, asymptomatic, soft tissue growth in the anterior maxilla of an adolescent individual. The differential diagnosis should be carefully discussed to rule out the other reactive lesions. The treatment of choice is surgical excision, lasers and scaling of the adjacent teeth can be considered for better prognosis.

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