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PERIPHERAL OSSIFYING FIBROMA OF THE ANTERIOR MAXILLA: A CASE REPORT

Periodontology

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ABSTRACT

Peripheral ossifying fibroma (POF) presents as a tumor-like growth of the soft tissue and is often associated with sharp teeth, rough restoration, and ill-fitting denture. POF is fibro-osseous in origin and is commonly found in the maxillary region. It is a slow-growing benign tumor and usually asymptomatic. However, it may induce facial asymmetry. A 60-year-old male patient who reported to the Department of Periodontology with the chief complaint of slow-growing painful mass in right upper front gum region underwent surgical excision of the mass using scalpel. 3 months follow-up showed uneventful and satisfactory healing of the excised region.

KEYWORDS

INTRODUCTION

Gingival hyperplasia is a multifactorial condition that develops as a response to noxious stimuli because of unfavourable interactions between host and environment.[1] Gingival overgrowth varies from mild enlargement of isolated interdental papillae to uniform marked enlargement affecting either one or both the jaws.[2] Peripheral ossifying fibroma (POF) is a pathologic condition seen in the oral cavity which occurs as an overgrowth of gingiva due to factors like trauma or irritation. This lesion is often mistaken for various other commonly occurring exophytic type of gingival lesions such as gingival hyperplasia of fibrous type or pyogenic granuloma.[3] Peripheral ossifying fibroma presents as gingival swelling that is considered to be reactive in nature rather than neoplastic nature.[4] This may originate from the periosteum and periodontal ligament as a result of constant irritation by deposits of plaque and calculus, orthodontic appliances, and faulty restorations.[5] It may present as a growth having a peduncle or with a wide base and usually a smooth surface, with the colour varying from pale pink to cherry red. The common site of involvement has been reported as the anterior maxilla. In most cases, there is no involvement of the underlying bone. Thus, lesions may recur after excision.[6] The possible reasons for increased recurrence rate is incomplete surgical excision of lesion, incomplete removal of plaque and calculus deposits etc.

Case Report

A 60-year-old male patient who reported to the Department of Periodontology with the chief complaint of slow-growing painful mass in right upper front gum region since 2 months. He presented with a history of smoking 1 bundle bidi per day since 10 years. On examination of soft tissue a solitary mass was present on the marginal and attached gingiva of upper right central and lateral incisor, round in shape, 1.5x1cm in size, pedunculated, mass was creamish white to grayish in colour (Fig. 1) and slight erythematous. On palpation the lesion was firm to hard in consistency, non-tender.

Provisional diagnosis of pyogenic granuloma in relation to the maxillary right central and lateral incisor region was given. Routine hematologic investigations and serology tests were done before excisional biopsy which were all within normal limits. Oral prophylaxis was done and after one week surgical excision of lesion with scalpel 15 no. blade was done. Before excision the periphery of the lesion was marked with Haematoxylin pencil (Fig.2). After surgical excision (Fig.3) the mass was sent for histopathological examination (Fig.4).

The patient presented for a follow-up examination 15 days (Fig.5) and 3 month postoperatively. The healing was uneventful (Fig. 6). Patient was asymptomatic and there was no evidence of recurrence of the lesion.

Histopathology report revealed presence of stratified squamous epithelium showing pseudoepitheliomatous hyperplasia and hyperkeratosis at areas. The underlying connective tissue stroma shows dense collagen fibre bundles, hyalinized at areas. Basophilic calcifications was noted in few areas. Mild chronic inflammatory infiltration was seen in the stroma. (Fig.7)

Based on histopathologic examination and clinical presentation final diagnosis of peripheral ossifying fibroma in relation to the maxillary right central and lateral incisor region was given.

DISCUSSION

Gingival hyperplasia is one of the frequent features of gingival diseases.[7] Most of the localised growth in oral cavity is seen on gingiva which may range from inflammatory or reactive to neoplastic in nature. Peripheral ossifying fibroma is one such reactive, non-neoplastic entity. It is a focal reactive hyperplasia of connective tissue that occurs exclusively on gingiva. It accounts for 9.6% of gingival lesions.[8]

POF is a well demarcated mass of tissue, located on the gingiva, having a sessile or pedunculated base, and being the same color as normal mucosa or slightly reddened.[9] Shepherd in the year 1855 reported the first case of peripheral ossifying fibroma as alveolar exostosis. The lesion was first described as a relatively uncommon, solitary, non-neoplastic gingival growth by Eversol and Robin. The term "Peripheral ossifying fibroma" was coined by Gardner in 1982 for a lesion that is reactive in nature, and it is not the extraosseous counterpart of a central ossifying fibroma of the maxilla and mandible.[5,10,11]

Etiopathogenesis remains controversial and there are two schools of thought proposed to understand the histogenesis of POF.

1. Pyogenic granuloma may undergo fibrous maturation and calcification, and develop as peripheral ossifying granuloma.
2. The cells of periodontal ligament or periosteum may undergo inflammatory hyperplasia. Followed by metaplastic changes of connective tissue leading to dystrophic calcification and bone formation.[12]

The POF, as discovered in the present case report, is a focal, reactive, non-neoplastic tumour-like growth of soft tissue arising from the interdental papilla. POF presented as a pedunculated nodule. The lesion was red to pink in colour with smooth surface. The treatment of choice for the lesion was local resection with peripheral and deep margins including both the periodontal ligament and the affected periosteal component with No. 15 blade (scalpel). Scalpel was the preferred treatment of choice over electrosurgery and laser because healing was faster with a scalpel and include less amount of damage to adjacent tissue than other techniques. The electrosurgery has certain disadvantages, such as electrical energy is converted to heat in tissue,

by the action of heat, charring removes hydrogen and oxygen from the solid, so that the remaining char is composed primarily of carbon, odour of burning tissue is present if high volume suction is not used and it does not excise the tissue completely from the deep base as a result remnant tissue may left at the site which leads to further reoccurrence of the lesion and the disadvantages associated with laser include the high cost, buying a laser device is expensive comparing it to scalpel, retinal eye damage may occur to the operator, dental assistant and the patient if specific protective goggles were not used, laser is associated with poorer wound healing and greater tissue desiccation than scalpel. The only disadvantage of the scalpel technique was unpleasant bleeding during and after the procedure. **Barot VJ et al**[13] in a case report concluded that complete surgical excision with the help of scalpel down to the periosteum is the preferred treatment in correlation with the present case.

Our results in this case have shown the use of a scalpel to be more advantageous over the use of electrosurgey and laser as far as wound healing is concerned.

Differential diagnosis of peripheral ossifying fibroma can be focal fibrous hyperplasia, pyogenic granuloma and peripheral giant cell granuloma. Focal fibrous hyperplasia is more common among women, and the peak age is in the third to sixth decade, with the anterior maxilla being the most prevalent site. Clinically it appears as pale pink to white in colour, less than 2cm in diameter, firm in consistency, sessile growth. Pyogenic granuloma is more common among women, and the anterior maxilla is the most prevalent site. Clinically presents as reddish to pink in colour, less than 2.5 cm in diameter, soft in consistency, pedunculated growth. Peripheral giant cell granuloma peak age ranges between the fourth and sixth decades, and the posterior mandible is the most prevalent site. Clinically presents as reddish purple in colour, 1 to 1.5cm in size, firm and pedunculated growth.[13]

Fig.1 Pre -op view

Fig.2 Marked with Haematoxylin Pencil and Surgical excision

Fig.3 Immediate Post-op

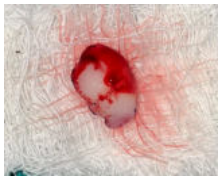


Fig.4 Surgically removed Mass

Fig.5 15 days follow-up

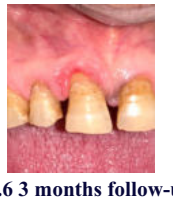
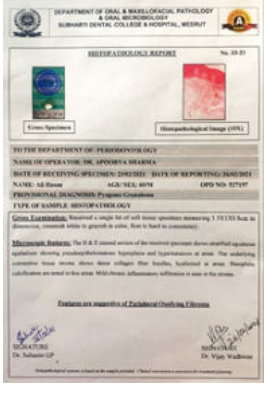


Fig.6 3 months follow-up



DEPARTMENT OF ORAL & MAXILLOFACIAL PATHOLOGY & ORAL MICROBIOLOGY
SUBHARTI DENTAL COLLEGE & HOSPITAL, MEERUT

HISTOPATHOLOGY REPORT

TO THE DEPARTMENT OF: PERIODONTOLOGY

NAME OF OPERATOR: DR. APOORVA SHARMA

DATE OF RECEIVING SPECIMEN: 23/02/2021 DATE OF REPORTING: 26/02/2021

NAME: Ali Hasan AGE/SEX: 60/M OPD NO: 527197

PROVISIONAL DIAGNOSIS: Pyogenic Granuloma

TYPE OF SAMPLE: HISTOPATHOLOGY

Gross Examination.

Microscopic features:

Features are suggestive of Peripheral Ossifying Fibroma

Dr. Subarni GP

Dr. Vijay Wadhwan

Fig.7 Histopathology report

CONCLUSION

In the present case report the clinical and histopathologic features of POF are discussed. Treatment of POF includes thorough oral prophylaxis, root planing of adjacent teeth and other source of irritants should be removed. Surgical intervention of POF should ensure deep incision of lesion including periosteum. Due to increased recurrence rates regular follow up is essential. Incomplete excision of lesion and/or due to perseverance of local factors is the possible reason for recurrence.

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