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Pyogenic Granuloma Associated With Hypertensive Medication: A Case Report

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Abstract

Pyogenic granuloma is a relatively common mucocutaneous lesion seen in the oral cavity, as a response to some underlying irritating factor. Clinically oral pyogenic granuloma is seen as a smooth exophytic lesion with usually haemorrhagic base. The condition is frequently associated with periodontal pain and discomfort, in some cases interfering with mastication and creating esthetic problems. The growth is typically seen in young adults, with occurrence in the oral cavity, especially the gingiva, this case report describes a pyogenic granuloma in a male patient, discussing the clinical features and histopathologic features and also the successful management of the lesion.

Keywords: Pyogenic granuloma, hypertension, oral lesion.

Introduction

Pyogenic granuloma also known as "***granulomapyogenicum***"[1]is a hyperactive benign inflammatory lesion first introduced by Hartzell in 1904. It is commonly seen as an overgrowth of tissue caused due to low grade irritation, drugs, physical trauma or hormonal changes. Gingiva is most commonly affected followed by buccal mucosa, tongue and lips [2]. Differential diagnosis of pyogenic granulomas may include párulis, peripheral giant cell granuloma, peripheral ossifying fibroma, hemangioma, peripheral fibroma, leiomyoma, hemangioendothelioma, hemangiopericytoma, bacillary angiomatosis, Kaposi's sarcoma, metastatic tumors, pregnancy tumor, and post-extraction granuloma. Treatment approach should include surgical excision with thorough scaling and curettage of the adjacent teeth and root surfaces. A final diagnosis of pyogenic granuloma is made based on the histopathological findings of the specimen. Lack of encapsulation is the main reason associated with recurrence of pyogenic granulomas if surgical removal is incomplete.

Following is a case report of pyogenic granuloma in a male patient along with its histological findings and mode of treatment

Case report

A 42-year-old male patient reported to the Department of Periodontics with a chief complaint of growth in the lower anterior teeth region since 3 months. The growth was initially small in size and gradually increased over time attaining the present size. The growth was not painful but often bled while brushing, eating and rinsing.

Medical history of the patient showed history of hypertension since 5 years for which he was under calcium channel blockers (10mg amlodipine). Despite the long term consumption of this medication there was no previous history of gingival enlargements.

Extra oral examination was non-significant. Intra oral examination revealed a pink colored, oval shaped, sessile, lobulated lesion with a smooth surface involving the interdental papilla between 31 and 32 (Fig. A). The growth was firm on palpation and non-tender with absence of discharge. Bleeding on provocation was positive. Oral hygiene was poor with calculus deposits and stains. Based on the clinical findings and medical history a provisional diagnosis of drug induced gingival enlargement was given. Intraoral periapical radiograph revealed mild crestal bone loss interdentally. Complete hemogram showed all blood counts within normal limits.

Oral prophylaxis was performed. In addition, chemical plaque control measures were advised in the form of 0.2% chlorhexidine gluconate mouthwash, to be used twice daily. Excisional biopsy was performed under local anesthesia and sent for histopathologic examination (Fig. B, C). The patient was recalled after a week and the excised area was evaluated showing satisfactory healing. The patient was recalled periodically at two weeks, 1 month, and three months. At each visit, oral prophylaxis and oral hygiene instructions were reinforced. Even after three months, there was no recurrence of the lesion.

Histological Findings

Microscopically, the tissue sections showed the presence of an ulcerated parakeratinized stratified squamous epithelium overlying a connective tissue stroma (Fig. D). The connective tissue exhibited numerous engorged blood vessels (Fig.E) and proliferating endothelial cells intermixed with dense chronic inflammatory cell infiltrate (chiefly lymphocytes and plasma cells). Focal areas of Gram – positive were seen in the superficial epitheliumBased on the above histologic findings, a final diagnosis of an infected pyogenic granuloma was made.

Discussion

Gingival overgrowth is multifactorial condition and is frequently associated with inflammatory changes. Reactive lesions of the gingiva can occur in different forms which includes pyogenic granuloma, focal fibrous hyperplasia, peripheral giant cell granuloma and peripheral ossifying fibroma. The causative etiology of these lesions can be attributed to local irritants such as poor oral hygiene, plaque and calculus, overhanging margins of restorations , trauma, dental appliances and medication.[3] Nonspecific conditioned enlargement, or pyogenic granuloma, is a benign, localized mass of exuberant granulation tissue and is seen as an exaggerated response to minor trauma or chronic irritation.[4] However, the term is a misnomer since the condition is not associated with pus formation and does not represent a granuloma histologically.[5]

Pyogenic granulomas may be confused with other benign and malignant conditions because of their appearance and evolution of growth hence a biopsy is mandatory to come to a final diagnosis. The most startling features histologically are the presence of numerous endothelium-lined vascular spaces and proliferation of fibroblasts and endothelial cells. Presence of fibrous connective tissue histologically is a sign of healing of the lesion[6].

In the present case, clinical and histopathological finding led to a final diagnosis of pyogenic granuloma. The irritating factor can be poor oral hygiene, non specific infection, overhanging restorations, or cheek biting. As a result of irritation, the underlying fibro-vascular connective tissue becomes hyperplastic and there is proliferation of granulation tissue which leads to the formation of a pyogenic granuloma. In the present case,

patient's oral hygiene was poor. Chronic irritation resulting from accumulated plaque and calculus could have contributed to the development of pyogenic granuloma.

Treatment consideration is of considerable importance especially aiming at preventive measures such as careful oral hygiene, removal of dental plaque and use of soft toothbrush. Excisional biopsy is indicated in the treatment of pyogenic granuloma except when the procedure would produce marked deformity; in such a case incisional biopsy is mandatory. So management of lesion depends on severity of the symptoms.[7] In case of large lesions bleeding can be a complication during excision. Wang et al.[8] recommended control of bleeding by desiccation of bleeders, firm compression of the lesion, use of blood transfusions in a case of severe bleeding during surgery. In some cases if the lesion is small and painless, shrinkage of the lesion after removal of etiologic factor is noticed. In complete excision, failure to remove etiologic factors or repeated trauma contributes to recurrence of these lesions.[9] Vilmann et al.[10] emphasized the need of follow-up, especially in pyogenic granuloma of the gingiva due to its much higher recurrence rate. The present case was followed up for a period of 6 months and no recurrence was observed.

Conclusion

From the present case report it is concluded that pyogenic granuloma can be adequately treated with the correct diagnosis and proper treatment planning. A careful management of the lesion also helps in preventing the recurrence of this benign lesion.

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Photographs

Figure 1: Gingival Overgrowth irt 31 32

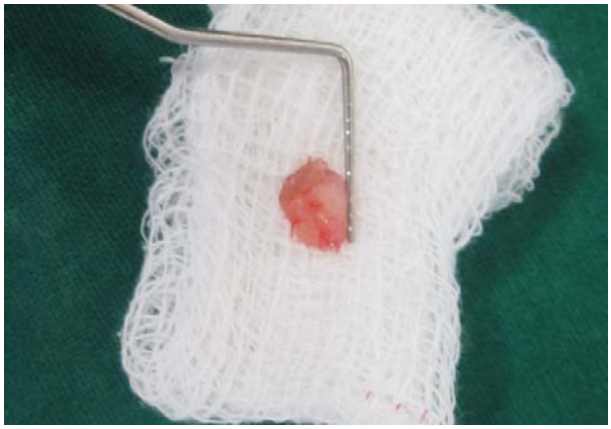

Figure 2 : Excised Tissue Mass Sent for biopsy

Figure 3: Post op

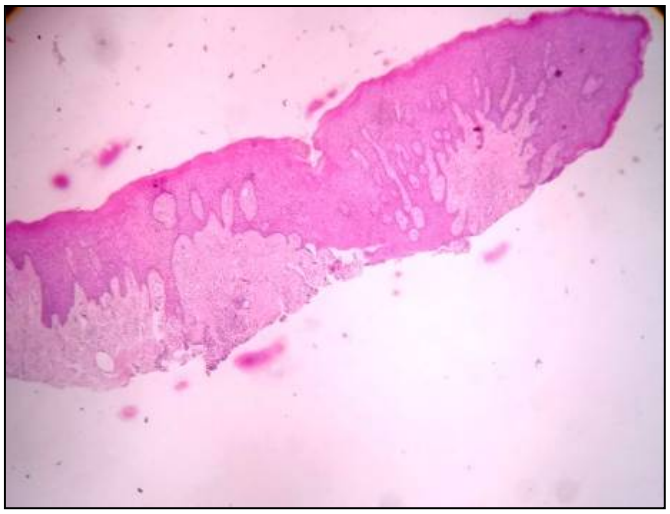

Figure 4: Ulcerated Parakertinized Stratified Squamous Epithelium

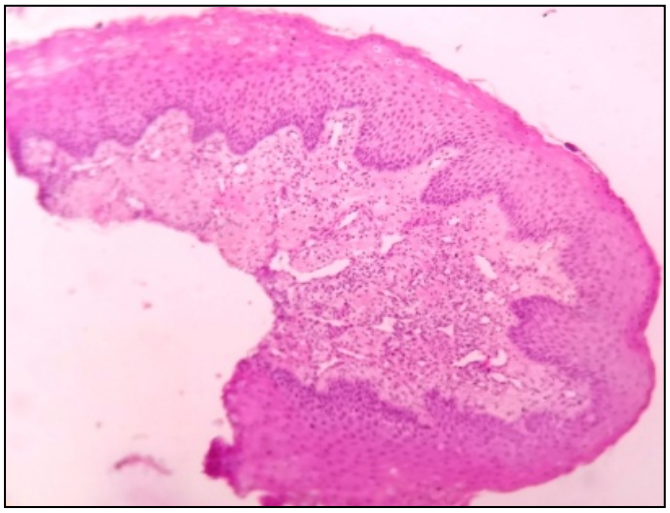

Figure 5: Numerous Endothelial Lined Blood Vessels