Case Report

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Pyogenic Granuloma: A Case Report

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ABSTRACT

Background: Pyogenic granuloma is an inflammatory hyperplasia, a tumour-like growth which is not an uncommon entity and usually arises in response to nonspecific infection. The most frequent location encountered in oral cavity is the gingiva and the tongue is a rare location for its occurrence. Because of the high frequency of pyogenic granuloma in the oral cavity, this case report describes a pyogenic granuloma in a 65-year-old male patient, discussing the clinical features and histopathologic features and also the successful management of the lesion. Surgical excision and removal of etiological factors are needed for treatment.

Keywords: Pyogenic granuloma, Gingiva.

INTRODUCTION

The term "pyogenic granuloma" or "granuloma pyogenicum" was introduced by Hartzell in 1904; it is a relatively common, soft tissue tumor of oral cavity that is non-neoplastic in nature[1]. But some authors use the term lobular capillary hemangioma for this lesion[2]. The term "inflammatory hyperplasia" is also used to describe a large range of nodular growths that histologically represent inflamed fibrous and granulation tissue[3]. It is a hyperactive benign reactive lesion commonly seen in the oral cavity with gingiva being the most common affected site followed by buccal mucosa, tongue and lips[4]. The name itself is a misnomer since no pus is associated with it and does not represent a granuloma histologically[5]. Clinically it present as single nodule or sessile papule with smooth or lobulated surface[6].

CASE REPORT

A 65-year-old male patient reported to the private clinic, complaining of bleeding and swollen gums with difficulty in eating due to mobile teeth since 6 months. He had stopped brushing the area due to bleeding from the area. On extraoral examination, there was no visible swelling on the right side of the maxilla. Intraoral examination revealed a faulty prosthesis attached with anterior teeth, associated with generalized gingival enlargement and gingival recession. Localized gingival growth in relation to 12,13,14 and 15 (Figure 1,2,3). It was reddish pink in color and was approximately 4 mm × 6 mm in size. Routine hemogram was found to be normal. A provisional diagnosis of pyogenic granuloma was made. The differential diagnosis included irritational fibroma, peripheral ossifying fibroma, peripheral giant cell granuloma, inflammatory papillary hyperplasia. After removal of faulty prosthesis, the mobile teeth 12,13,14 and 15 were extracted (Figure 4) then excisional biopsy was performed and specimen was send for histopathological review. One bit of tissue was received measuring 10 mm x 7 mm in size. Histopathological examination revealed stratified squamous parakeratinized epithelium covering cellular connective tissue stroma. The connective tissue stroma shows collagen fibers interposed with

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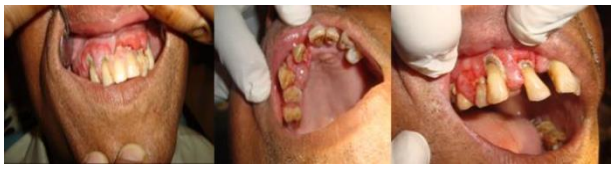

Fig 1, 2 &3: Patient with faulty prosthesis, palatal growth and interdental growth.

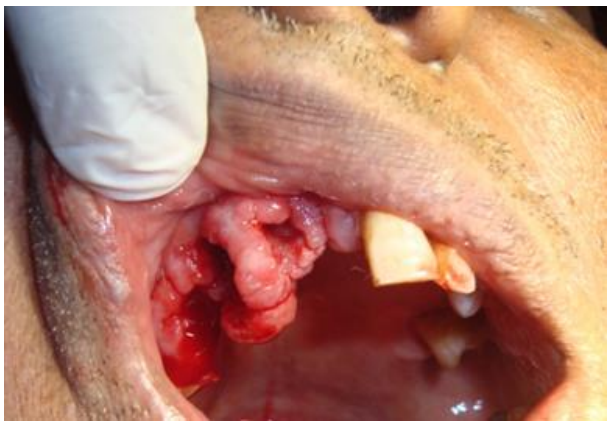

Fig 4: After extraction of tooth.

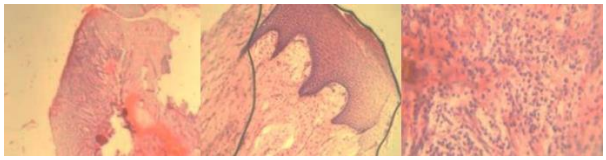

Fig 5,6 & 7: Photomicrography showing stratified squamous parakeratinized epithelium covering cellular connective tissue stroma with inflammatory cells infiltrate.

fibroblasts, lot of epithelial lined spaces, dense & diffuse distribution of lymphocytes and plasma cells. There was no evidence of atypia or malignancy. On the bases of the clinical and histopathological findings confirmed diagnosis of pyogenic granuloma was given (Figure 5,6,7).

DISCUSSION

Nonspecific conditioned enlargement, or pyogenic granuloma, is a benign, localized mass of exuberant granulation tissue[7]. It is considered as an exaggerated conditioned response to minor trauma or chronic irritation[8]. It was first described in 1897 by Poncet and Dor and at that time, it was called botryomycosis hominis[9]. It has been referred by a variety of other names such as granuloma pediculatum benignum, benign vascular tumor, pregnancy tumor, vascular epulis, Crocker and Hartzell's disease. It was given its present name by Crocker in 1903[10]. However, some researchers believe that Hartzell in 1904 introduced the term "pyogenic granuloma" that is widely used although, it does not express accurately the clinical or histopathologic features[11]. In the oral cavity they show a striking predilection for the gingiva, with interdental papillae being the most common site in 70% of the cases[12]. They are more common in the maxillary anterior area than any other area in the mouth[13]. Pyogenic granulomas occur at any age, but they most frequently affect young adults[6, 14]. Pyogenic granuloma of the gingiva develops in upto 5% of pregnancies, hence the terms "pregnancy tumor" or "granuloma gravidarium" are often used[15]. Various etiological factors have been suggested by many authors such as staphylococci and botryomycosis, foreign bodies, gram positive and gram negative bacilli[10, 16]. Some stated that it usually arises due to chronic low grade irritation, to the tissues that provide a pathway for invasion of nonspecific types of microorganisms[17, 18]. After any trauma, the key to wound healing is the formation of granulation tissue which includes the migration of inflammatory cells, migration and proliferation of vascular endothelial cells, fibroblasts and synthesis of extracellular matrix[19]. Such processes of wound healing seem to be controlled by various kinds of cytokines[20]. Out of these cytokines – role of growth factors, particularly bFGF – a heparin binding angiogenic protein, has been found to be highly mitogenic for capillary endothelial cells and to induce angiogenesis[21].

Although pyogenic granuloma can be diagnosed clinically with considerable accuracy, radiographic and histopathological investigations, aid in confirming the diagnosis and treatment[12]. Radiographs are advised to rule out bony destruction suggestive of malignancy or to identify a foreign body[6]. Radiographic findings are absent in pyogenic granuloma. All clinically suspected pyogenic granulomas must be biopsied to rule out more serious conditions[22] and any foreign body, calculus, or defective restoration should be removed as part of the excision[23]. Treatment of pyogenic granuloma consists of conservative surgical excision which is usually curative. There is a relatively high rate of recurrence (about 15%) after simple excision[24]. Recurrences after surgery of

extragingival pyogenic granuloma is however uncommon[6].

CONCLUSION

Pyogenic granuloma is benign in nature and usually do not attain unusually large size. However, etiopathogenesis of oral pyogenic granuloma is still debatable. Though it can be adequately treated with correct diagnosis and proper treatment a careful management of the lesion also helps prevent the recurrence of this benign lesion.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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