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Pyogenic Granuloma: A Case Report

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Abstract

Pyogenic granuloma (also known as a "Pregnancy tumor") is a common lesion which appears in the mouth as an overgrowth of tissue due to physical trauma or hormonal factors. The condition is frequently associated with periodontal pain and discomfort, in some cases interfering with mastication and creating esthetic problems. The name for pyogenic granuloma is misleading because it is not a true granuloma. 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 female patient, discussing the clinical features and histopathologic features.

Introduction

Pyogenic granuloma is an inflammatory hyperplasia commonly found in oral cavity and is considered to be non neoplastic in nature[1, 2].According to English literature, Hullihen[3] was first to describe the case of pyogenic granuloma. In 1904, the current term of "pyogenic granuloma" or "granuloma pyogenicum was coined by Hartzell[4]. The different nomenclatures are "Granulation tissue-type hemangioma", "Granuloma gravidarum", "Lobular capillary hemangioma","Pregnancy tumor" and "Tumor of pregnancy" and "Granuloma telangiectacticum" because of evidence of vascularity seen in histological diagnosis Cawson., *et al* [5].

The term pyogenic granuloma is a misnomer because the lesion does not contain pus and is not a true granuloma. The incidence of pyogenic granuloma is 19.76-25% of all reactive lesions. Almost about 5% of the pregnancies revealed its occurrence and hence also known as pregnancy tumor.[6]

The etiological Factors for the lesion are by local irritation, chronic irritation, minortrauma, hormonal

factors, drugs and hormonal imbalance[7].The lesion is predominantly noticed in Young females with second and third decadeof life, possibly because of hormonal changes andvascular effect[8]. The common sites of occurrence are on the gingiva, lips, tongue, buccalmucosa, palate and floor of the mouth[9]. It appears with stalkor without stalk with a smooth or ulcerated surface. It may be deepred or reddish-purple in colour.[10]

It is difficult to diagnose or confused with some other pathologies like, peripheral fibroma, peripheralgiant cell granuloma, peripheral ossifyingfibroma, leiomyoma, hemangioendothelioma, hemangiopericytoma,Kaposi's sarcoma, Capillary Hemangioma, and post-extractiongranuloma. Final diagnosis of pyogenic granuloma is made onlyafter by histopathological investigation. Management of pyogenicgranuloma is surgical excision, curettage of the adjacent teeth androot surfaces. Because pyogenic granulomas rarely enclose, showmore affinity to recur if surgical removal is incomplete[10]. The present Casereport discussed a case of pyogenic granuloma in a female patientalong with histological findings.

Case Report

A 24 year old female patient reported to K M Shah Dental College, Vadodara with a chief complain of swelling over upper front teeth region since 2 months.The patient was asymptomatic 2 months back and initially noticed a tiny, bright-red nodule which was slowly growing and present on the palatal aspect of the gingiva in relation to both the upper central incisors. The lesion then progressively increased to present size.

Medical history was non -contributory. There was no raise in temperature and no regional lymphadenopathy. An intraoral examination revealed, pedunculated growth from the palatal aspect of the gingiva in relation to the maxillary central incisors 11-21 region covering crown of the teeth from palatal side(Figure-1). The oval-shaped mass was 1.8 cm x 2.0 cm in size, pink in color, smooth (Figure-2). Bleeding on manipulation was noted by bidigital palpation.

The lesion was excised in toto. The excision is performed under local anesthesia, followed by curettage and through scaling of the involved and adjacent teeth. Patient was recalled after seven days and removal of sutures were done. The specimen was sent for histopathologic examination. (Figure2)

Figure 1: Intraoral image of the lesion

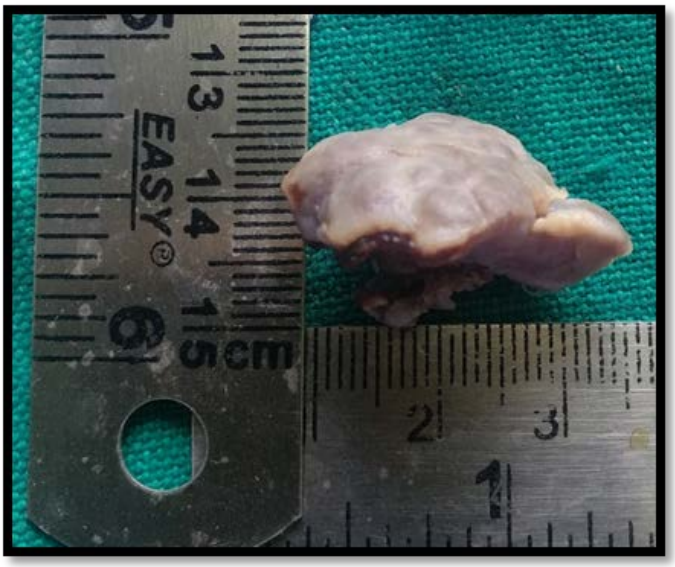

Figure 2: Grossing image of the Specimen

Histopathological Findings

The histopathological examination showed well encapsulated lesion lined by hyperplastic orthokeratinsed stratified squamous epithelium and connective tissue which was highly cellular with numerous blood vessels (Figure 3). In high power view the connective tissue was highly cellular with collagen fibers and spindle shaped fibroblasts. Moderate to severe inflammatory cell infiltration predominantly lymphocytes and few plasma cells are seen (Figure 4). Connective tissue is interspersed with numerous budding capillaries and also large blood vessels showing endothelial cell proliferation and filled with extravasated RBCs (Figure 5). The clinical and histopathological findings confirmed it to be a case of pyogenic granuloma.

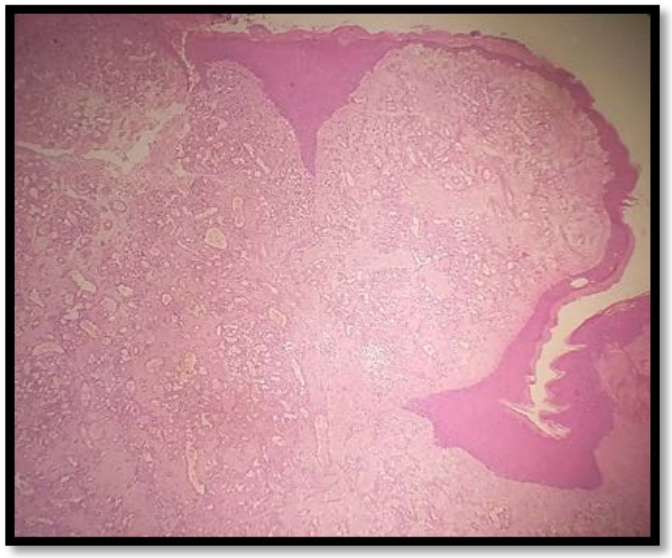

Figure 3: Scanner view of the lesion

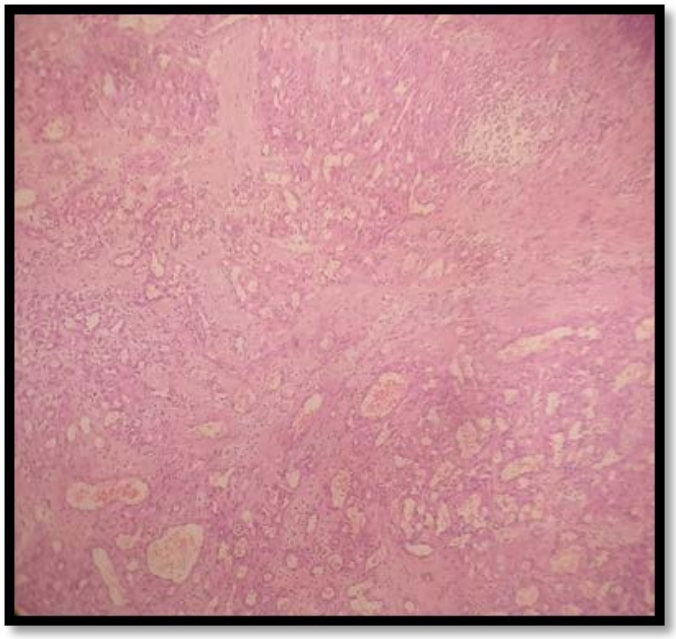

Figure 4: 10X view showing inflammation & Blood Vessels

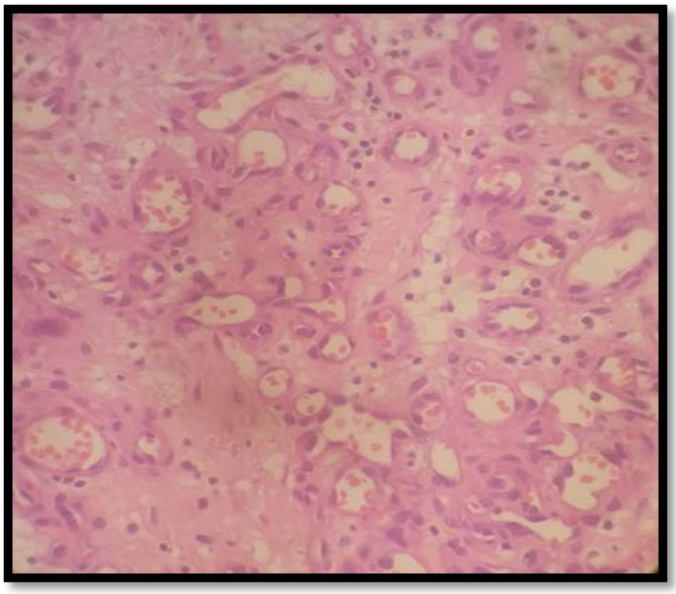

Figure 5: 40X view showing numerous budding capillaries

Discussion

The pyogenic granuloma is a relatively common, tumor like, exuberant tissue response to localized irritation or trauma. Oral pyogenic granuloma showprominent capillary growth within a granulomatous mass rather than the real pyogenic organisms and pus, so the term pyogenic granuloma is a misnomer and it is not a granuloma in the

real sense[11]. Pyogenic granulomas occur in all age groups, but are more frequently encountered in females in their second and third decade due to the increased levels of circulating hormones estrogen and progesterone. These findings are in accordance with the present case. Yuan et al.,[12] concluded that the morphogenetic factors were higher in pyogenic granuloma rather than normal gingiva supporting the mechanism of angiogenesis in oral pyogenic granulomas in pregnancy. However, the effects of female hormones on oral pyogenic granulomas were questioned by Bhaskar and Jacoway[13]since they found lesions both in males and females with no specific sexpredilection.

Conclusion

This article seeks to report a case of Pyogenic Granuloma in the maxillary gingival region with a note on the etiologies, clinical features and histological presentations. Even though Pyogenic Granuloma is a relatively common presentation, a careful diagnosis and management of the lesion helps in preventing the recurrence of this benign lesion.

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