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Extra gingival pyogenic granuloma: An unusual case presentation

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Abstract

Oral pyogenic granuloma represents an exaggerated soft tissue response and vascular proliferation resulting from chronic low-grade irritation.Its incidence is relatively common and accounts for 3.81% to 7% of all biopsy findings from oral cavity lesions. The most frequent intraoral localization is the gingiva, but the lesions can occur on the lips, tongue, buccal mucosa, and palate. Fewer than 5% of exophytic soft tissue lesions submitted for histopathological examinations are pyogenic granulomas. Hormones play a role in the etiology of the lesion in the setting of pregnancy (where the lesion is named a pregnancy tumor). There is increased incidence of these lesions towards the end of pregnancy (when levels of circulating estrogens are highest), and they tend to shrink after delivery (when there is a precipitous drop in circulating estrogens). Clinically, oral pyogenic granuloma occurs as a smooth or lobulated exophytic lesion manifesting as small, red, erythematous papules on a pedunculated or sometimes sessile base, which is usually hemorrhagic. Their friable, hemorrhagic, and frequently ulcerated appearance correlates with their histologic structure. This article reports an unusual case of extra gingival pyogenic granuloma occurring on the right buccal mucosa in a male patient.

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Introduction

Pyogenic granuloma (PG) is an inflammatory hyperplasia[1] and also known as lobular capillary haemangioma, a benign vascular tumour that occurs on the skin and mucous membranes. It is important to note here that this condition is neither associated with pus nor does it represent a granuloma histologically.[2] In fact, on the basis of the histopathological picture alone, it is invariably called lobular capillary haemangiomas.[3]

Clinically, these lesions usually present as single nodule or sessile papule with smooth, lobulated or warty surface and are red, elevated and usually ulcerated and show a tendency for haemorrhage either spontaneously or upon slight trauma.[4] The colour of the growth is red in younger lesions and with maturity; it becomes pinker and more fibrous as the vascularity decreases. It predominantly occurs in second decade of life in young -females (female: male=2:1).[5]

In general, pyogenic granuloma is asymptomatic but sometimes it can be painful, especially in an area of continuous trauma. In the oral cavity, the most common site of involvement is the gingiva (75%), maxilla being more involved than mandible. In rare instances, it may occur extra gingival on the lips, tongue, buccal mucosa, and palate.[6, 7]

The diagnosis of is based on histopathology. This case report presents a buccal pyogenic granuloma affecting the right buccal mucosa commissural region in a 40-year-old man due to chronic trauma.

Case presentation

A 40-year-old male patient reported with the chief complaint of growth on the outer aspect of right cheek with one-year duration. The growth was gradual in onset, initially small in size now increased to attain the present size. There was also a history of occasional bleeding from the growth during chewing. The patient's medical history was unremarkable. Patient is a smoker for 5 years.

Extra oral examination showed no swelling or facial asymmetry. Intraoral examination revealed a solitary exophytic, pedunculated growth on the right side of buccal mucosa at the level of occlusal plane, Figure 1. The exophytic growth appeared pinkish with superimposed white plaques, well defined borders with lobulated surface. The growth measured about 5mmx10mm, firm in consistency and minimally bled on provocation. There was no evidence of pus discharge from the lesion. Regional lymph nodes were not palpable.

Based on the history and clinical appearance of the lesion, provisional diagnosis of benign exophytic growth of right buccal mucosa was considered. A differential diagnosis of traumatic fibroma, pyogenic granuloma, and capillary haemangioma were also considered. Due to the relatively small size of the lesion, an excisional biopsy, along with histopathological evaluation was recommended as the diagnostic approach.

Complete excision of the mass was performed under local anaesthesia including 0.5mm normal surrounding margins, Figure 2. After excision the defect was closed primarily by 4-0 braided silk suture Figure 3. Biopsy results showed: Epithelium- stratified squamous, keratinized & non-keratinized areas with long interconnecting rete ridges; N/C ratio– normal; Connective tissue- cellular, numerous budding capillaries lined by plumped endothelial cells; fibroblast, numerous chronic inflammatory cell infiltrate. Histopathology confirmed the clinical diagnosis of pyogenic granuloma, Figure 4, 5.

Post excision period was uneventful with a regular follow-up of 1 month interval, which showed no evidence of recurrence for a period of 6-months, Figure 6.

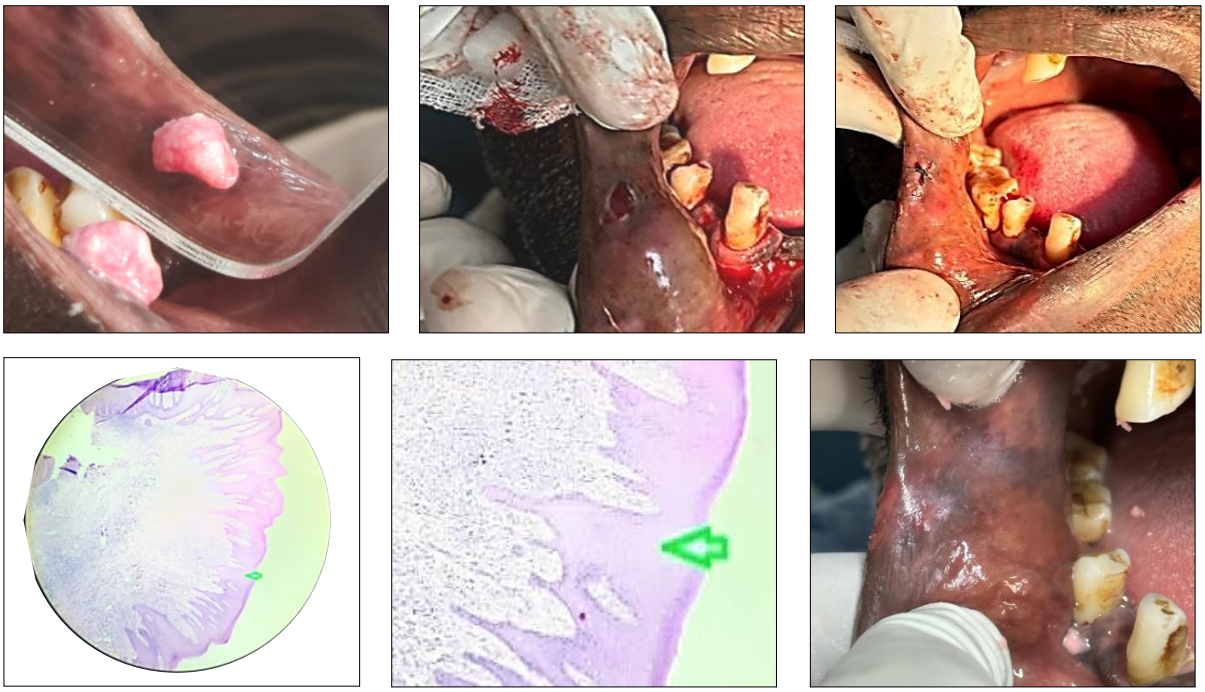

Figure 1. Intra-oral pinkish pedunculated outgrowth on the right buccal mucosa at the level of occlusal line; Figure 2. Complete excision including 0.5mm normal surrounding margins; Figure 3. Post surgery; Figure 4. Histopathology showing pyogenic granuloma (H & E x 10) like stratified squamous, keratinized & non-keratinized areas with long interconnecting rete ridges; Figure 5. Histopathology showing features of pyogenic granuloma (H & E x 40) like numerous budding capillaries lined by endothelial cells; fibroblast, numerous chronic inflammatory cells infiltrate; Figure 6. Post-operative photograph of the same patient.

Discussion

Pyogenic granuloma of the oral cavity is a relatively common entity first described by Poncet and Dor in 1897 as human botryomycosis. Hullihen's description in 1844 was most likely the first pyogenic granuloma reported in English literature, but the term "pyogenic granuloma" or "granuloma pyogenicum" was introduced by Hartzell in 1904.[7, 8]

In a review study reported that pyogenic granuloma developed in 22% of young patients. The peak age was in the second decade, and not prevalent in children. There is a controversy around the aetiology. Local irritation and chronic trauma are the common factors; such as, poor oral hygiene, parafunctional habits, history of dental extraction, overhanging dental restorations, and toothbrush trauma.[9]

These injuries may be caused in the mouth by a gingival inflammation, due to a poor oral hygiene, trauma, or a local infection.[9,10] In the present case, consistent trauma inflicted by the cheek biting, as a result of attrition in lower and upper teeth was likely the cause for the lesion in this location.

Pyogenic granuloma can be diagnosed clinically with considerable accuracy; radiographic and histopathological investigations aid in confirming the diagnosis and treatment. Radiographs are advised to rule out bony destructions suggestive of malignancy or to identify a foreign body. [5]

Various treatment modalities have been discussed, including surgical excision, cryosurgery, curettage, electrodessication, corticosteroid injection, sclerotherapy, and lasers.[11-13] Management of pyogenic granuloma is conservative surgical excision, after thorough oral prophylaxis. After excision, recurrence occurs in up to 16% of the cases. Recurrence is believed to result from incomplete excision, failure to remove etiologic factors, or re-injury

of the area. Recurrence of extra gingival pyogenic granuloma is uncommon.

Conclusion

This case discusses the lesion's clinical and histological characteristics and notes that, despite being often used, the name "pyogenic granuloma", it is incorrect because it is not associated with pus and is histologically angiomatous, not granulomatous. This case demonstrates complete satisfactory healing after the excision of pyogenic granuloma by the conventional scalpel method with no scar tissue formation, no discomfort, and no pain. Local excisional biopsy is the common treatment modality of this buccal lesion.

Author contribution

Concept design: GKG; Literature search: PR, DU, PS; Data collection: DU; Draft manuscript: GKG, PS; Final manuscript and accountability: All

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Conflict of interest

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Consent

All the appropriate patient consent has been taken in the form of verbal and written. In the consent form, the patient gave consent for her images and other clinical information to be reported in the journal. The patient was counselled that her name and initials would not be published and due efforts would be made to conceal the identity, but anonymity cannot be guaranteed.

Supplementary material

Data and supplementary material that support the findings of this study are available from the corresponding author upon reasonable request.

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