

Pyogenic Granuloma Of Buccal Mucosa – A Rare Case Report

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ABSTRACT: Pyogenic granuloma is tumor-like proliferation to a nonspecific infection. Clinically, pyogenic granuloma appears as an exophytic mass that is sessile or pedunculated, with a smooth or lobulated surface and a propensity to bleed readily. These lesions tend to occur slightly more in females. Histologically, these lesions display an abnormal amount of connective tissue vascular type growth due to an unidentified infection. Surgical excision combined with removal of any local irritants is the most typical course of treatment. Excision combined with the removal of nearby irritants. The pyogenic granuloma on the buccal mucosa of a 48-year-old guy is described in this case study along with the clinical and histopathologic characteristics that set it apart from other lesions of the oral mucosa.

KEY WORDS: Pyogenic granuloma, pregnancy tumour, overgrowth, hyperplasia

INTRODUCTION:

Pyogenic granuloma (PG) is a common reactive lesion of the skin and mucous membranes that occurs in young adults. Pyogenic granuloma is a misnomer since the lesion is histologically formed of granulation tissue and is not connected to pus development. It is one of the most common benign tumor-like proliferations affecting the oral cavity. PG was identified over a century ago and has been associated with minor trauma, chronic irritation, hormonal factors, and viral infections. It is one of the most prevalent benign proliferations that resemble tumors that affect the oral cavity. To date, however, no significant causative relationships have been verified.⁽¹⁾

Synonyms for pyogenic granuloma are:

Granuloma gravidarum

Lobular capillary haemangioma

Pyogenic fibroma

Pregnancy tumour

Eruptive haemangioma

In 1844, Hullihen⁽¹⁾ described the first case of pyogenic granuloma in English literature. Pyogenic granulomas in humans were first referred to as "botryomycosis hominis" in 1897. The modern name "pyogenic granuloma" or "granuloma pyogenicum" was coined by Hartzell in 1904. It was also called

Crocker and Hartzell's disease.⁽²⁾ The term pyogenic granuloma was adopted in 1925 because it was considered descriptive of the underlying process.⁽³⁾

Pyogenic granulomas are rarely (17%) observed in other parts of the mouth than gingiva (75%), but they can develop in places that experience repeated trauma, such as the tongue, upper and lower lips, buccal mucosa, and mucosa in locations where teeth are missing.⁽⁴⁾

Since pyogenic granuloma develops in soft tissue, radiographic examinations do not reveal any distinctive diagnostic features, but they might help rule out any other lesions that can clinically resemble pyogenic granuloma.⁽³⁾

Histologically, the lesions display connective tissue that is arranged in lobules, with bigger vessels in the center and clusters of well-formed capillaries at the edges. It's possible to see necrosis alongside surface ulceration. Younger lesions have edematous stroma and active fibroblasts, whereas older lesions have significant fibrosis and few mature fibroblasts.

The development can be classified into

- (i) the cellular phase,
- (ii) the capillary phase or vascular phase, and
- (iii) the involutionary phase.⁽⁵⁾

Immunohistochemistry shows that pyogenic granulomas express typical endothelial markers such as CD31.⁽⁶⁾

Various treatment modalities have been used to remove PG. Effective means include excision, shave excision, laser surgery, electro desiccation, curettage, ligation, or a combination of methods.⁽⁷⁾

CASE REPORT:

A 48-year-old male patient reported with the chief complaint of growth on the buccal mucosa on the right side since 1 month. The growth was initially small when the patient had first noticed it but had grown rapidly to attain the present size.

Clinical examination revealed a well-defined, solitary, pedunculated mass on the right buccal mucosa. The growth was irregular in shape and measured around 10×7 mm [figure-1]. Indentations of the teeth are also seen. The surface of the growth was pale white with areas of erythema. On palpation, the growth was firm in consistency, non-tender, and showed minimal bleeding.

Hard tissue examination revealed sharp cusps with 46,47. Generalized hard and soft deposits along with stains were also seen.

Based on the history and clinical examination, a provisional diagnosis of traumatic fibroma was made and the growth was excised under local anesthesia. Enameloplasty was also done with 46 and 47 to smoothen the sharp cusps. Histopathologic examination revealed para-keratinized stratified squamous epithelium and underlying connective tissue. Connective tissue was fibrovascular with numerous budding capillaries. Connective tissue also showed chronic inflammatory cells predominantly lymphocytes and plasma cells. These findings were consistent with a histopathologic diagnosis of pyogenic granuloma. The patient was followed up for upto 3 months with no evidence of recurrence.



Figure 1 - Solitary, pedunculated mass around 10×7 mm seen on the right buccal mucosa.



Figure 2 – Postoperative Photograph

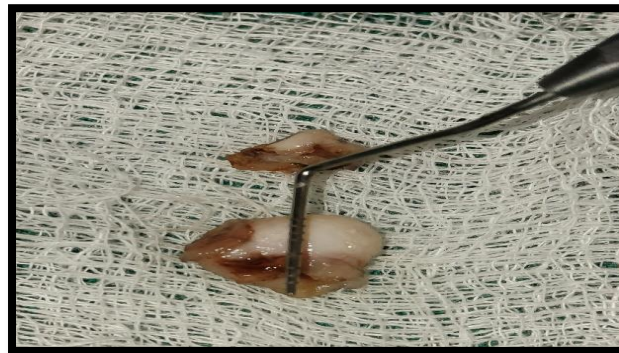


Figure 3 – Excised tissue



Figure 4 – 2 months follow up

DISCUSSION:

One of the inflammatory hyperplasias found in the oral cavity is the pyogenic granuloma. Crocker coined the phrase "pyogenic granuloma" in 1903. Pyogenic granulomas frequently develop in the gingival (75%) (keratinized mucosa), and frequently in the maxillary jaw's anterior region. Other extra gingival (17%) locations in the head and neck where the lesion tends to develop as a result of trauma include the palate, the lower lip, the buccal mucosa, and the alveolar mucosa of the edentulous ridge, all of which are quite uncommon.

The formation of this lesion in the present case may have been caused by repeated trauma caused by the lower molars' pointed edges. These connective proliferations are thought to form for a variety of reasons, including trauma or hormonal changes that,

when combined with poor dental hygiene, irritate and inflame the gingiva. The diagnosis of these lesions might be aided by an appropriate history and clinical examination.⁽²⁾

Clinically, an oral pyogenic granuloma is a smooth or lobulated exophytic lesion that appears as a tiny, red, erythematous, pedunculated, or occasionally sessile base that is typically hemorrhagic. Depending on the age of the lesion, the surface can be pink, red, or purple. In their study, Bhaskar et al. found that, aside from caries and gingivitis, oral pyogenic granuloma made up roughly 1.85% of all oral pathologies treated at the US Army Institute of Dental Research. Up to 5% of pregnancies have the pregnancy tumor variety of pyogenic granuloma.⁽⁴⁾

Although pyogenic granuloma can be identified clinically, unusual manifestations necessitate a biopsy to rule out any other significant lesions. According to the cause and length of the lesion, extra gingival pyogenic granulomas have a histology that is comparable to that of gingiva, with a proliferating vascular core in connective tissue stroma and the presence of acute or chronic inflammatory infiltrates.⁽⁴⁾

Pyogenic granuloma is treated conservatively by surgical excision, and if lesions develop on the gingiva, oral prophylaxis is required as a follow-up. Treatment should be given if trauma or persistent irritation is the most frequent cause of extra gingival lesions. Nd: YAG laser, flash lamp pulsed dye laser, cryosurgery, and intralesional injection of ethanol or corticosteroid, sclerotherapy are a few more treatment options that have been suggested. Because of its smoothness and humidity, oral mucosa has been regarded as a potential site for cryosurgery in the treatment of pyogenic granuloma. It exhibits exceptional aesthetic quality (Ishida and Ramos-e-Silva, 1998). Recurrence rates are not uncommon and may be brought on by insufficient excision, failure to eliminate risk factors, or reinjury of the area.⁽⁸⁾

CONCLUSION:

A pyogenic granuloma may have peculiar symptoms. They may exist in strange locations and in unusual sizes. In these clinical scenarios, surgical

excision should be performed and the treatment strategy adjusted appropriately. Recurrence of these lesions can be avoided with consistent follow-up and good oral hygiene maintenance.

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