



Post Trauma Pyogenic Granuloma: A Case Report of A Male Patient

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Abstract

Background: Pyogenic granuloma is a reactive hyperplastic lesion with a slight female predilection, due to the vascular effects of hormones; although, in some cases it can also occur by chronic irritation, trauma and certain drugs. This lesion shows a predilection for the gingiva in 75% of cases. As for the terminology, it carries that name because it was thought that a pyogenic organism caused this type of injury. Although, it is now known to be a misnomer, it is still referred to as Pyogenic Granuloma.

Patient concerns: This article presents a case report of a 42-year-old male patient with a suspected case of post-traumatic pyogenic granuloma presented in the buccal mucosa with more than a month of evolution.

Conclusions: The presumptive diagnosis must be verified to eliminate the suspicions of malignant injury. Despite the clinical characteristics brought us closer to the diagnosis, the histological study was able to confirm it. Thinking about the patient's tranquility and comfort, detailed clinical examination followed by histopathological evaluation is always the gold standard. As health professionals, our main goal will always be the tranquility and compliance of our patients.

Received: Mar 01, 2021

Accepted: Apr 02, 2021

Published Online: Apr 05, 2021

Journal: Annals of Dentistry and Oral Health

Publisher: MedDocs Publishers LLC

Online edition: <http://meddocsonline.org/>

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Keywords: Biopsy; Margins of excision; Surgery; Oral; Granuloma; Pyogenic; Case study; Pathology, Oral.

Cite this article: Valenzuela Soler DY, Cardenas Delgado RK, Cortes EG, Valdivia ADCM. Post Trauma Pyogenic Granuloma: A Case Report of A Male Patient. Ann Dent Oral Health. 2021; 4(1): 1033.



Introduction

Silva de Araujo Figueiredo *et al.*, [1] report in this article that Pyogenic Granuloma (PG), is a non specific reactive hyperplastic lesion with no specific sex predilection. However, studies have shown that pregnant women have a higher risk for gingival disorders, like PG, gingivitis and periodontitis. Also known as a "pregnancy tumor" when it appears in those conditions.

As for the terminology, it carries that name because it was thought that a pyogenic organism caused this type of injury. Although, it is now known to be a misnomer, it is still referred to as Pyogenic Granuloma. Its appearance in the oral cavity is related to hormonal changes, specifically with the vascular effects of female hormones. Because of this, a higher incidence of PG is expected in women [1,2,3]. PG has a predilection for keratinized mucosa, appearing most often in the gingiva. A limited number of patients with PG on extragingival sites have been reported in the literature [1,2]. Treatment is usually a simple surgical removal, with a lower degree of recurrence in the extragingival sites than in the gingiva [2].

It presents as a soft, lobulated mass, usually with a pedunculated base, of variable size, which may or may not bleed with the slightest contact, it could vary in color from reddish, pink or purple, depending on the maturation of the lesion [1,4,5]. Histologically, the proliferation of granulation tissue with inflammatory infiltrate, mainly lymphocytes and significant angiogenic capacity, is observed [5].

PG exhibit rapid growth and takes weeks to months to reach its optimal size. This case report describes a fast growth of PG localized in the buccal mucosa area in a 42-year-old male patient, and discusses the importance of associating a good clinical examination with a histopathological evaluation.

Case report

A 42-year-old male patient presented to the Department of Periodontology at the Universidad Autónoma de Guadalajara. Initially, the patient was consulting for a prophylaxis, however, during the intraoral examination was observed a single nodule of approximately 10 x 7 mm with a whitish and pink smooth surfaced with a pedunculated base in the buccal mucosa at the level of the occlusal plane area (Figure 1).

When questioning the patient, he reported noticing the lesion a month and a half after accidentally biting himself, he noticed bleeding but no pain. Based on the clinical characteristics and data provided by the patient, the lesion was diagnosed as a pyogenic granuloma. The biopsy was done using local anesthesia at the base of the lesion, the complete excision of the lesion was performed with a scalpel, and a single 3-0 silk suture was placed, after a week the suture was removed (Figure 2).

The histopathological report revealed granulation tissue composed of epithelioid-like cells in a highly vascularized stroma and erythrocyte extravasation, chronic dispersed inflammatory infiltrate was observed. The parakeratinized stratified squamous superficial epithelium with an extensive area of ulceration, where a fibrin surface and mixed infiltrate was observed (Figure 3). The initial diagnosis pyogenic granuloma reactive granulation tissue was histologically confirmed.

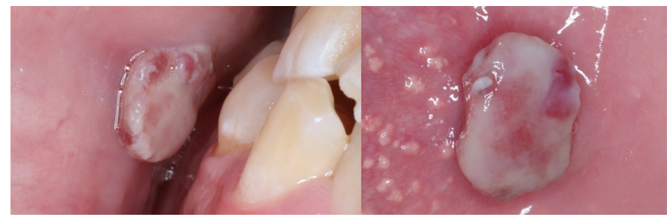


Figure 1: Initial clinical photographs.

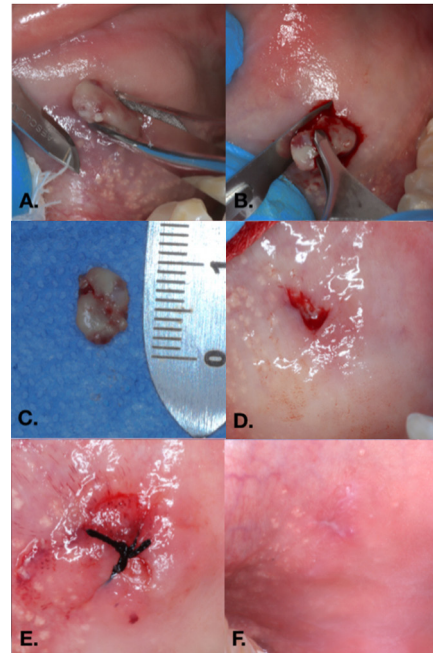


Figure 2: (A). Traction of the pedunculated base (B). Excision from the base with a scalpel (C). Macroscopic specimen (D). Clean base after complete removal (E). Single suture. (F). Healing after two weeks.

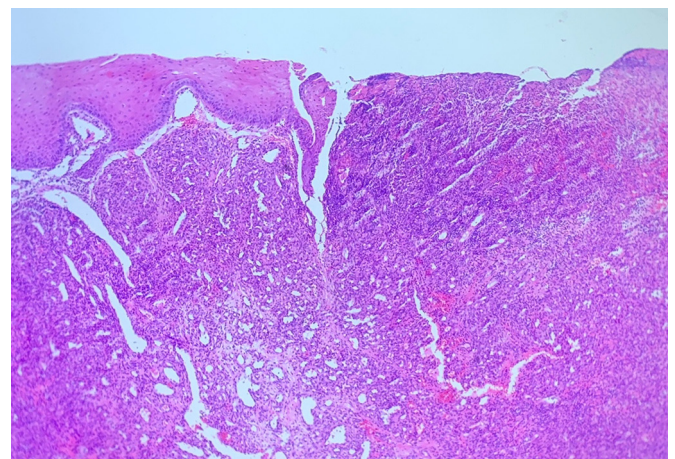


Figure 3: Histopathological view of the lesion 10x

Discussion

PG represents 12% of the reactive hyperplastic lesion, being the second most common [3]. It is a chronic growth, when it appears in women during gestation, it is known as "Pregnancy Tumor" [1,2,4,5]. The name of pyogenic granuloma was given because it was thought that the lesion was caused by a pyogenic bacterium. After many years, it was discovered that PG was unrelated to any purulent content. Although this name may be incorrect, it has been referred to the same way [3,4].

The appearance of PG in the oral cavity has been associated with hormonal changes (estrogen and progesterone), some authors have reported that the pathogenesis of the lesion were linked to female sex hormones, which stimulate the increase local production of angiogenic factors, such as endothelial growth factor [1,2,4]. In this way, a higher incidence of PG is expected in women [3]. Other possible factors are trauma (self-biting) or chronic irritation, food imparts, calculus, out-of-contour restorations [2,4,5,6].

PG has a predilection for keratinized mucosa, appearing most of the time in the free gingiva (75%) which is prone to trauma and chronic irritation, followed by the tongue, oral mucosa, lip, even on the hard palate [4,5,6]. The differential diagnosis of pyogenic granuloma includes a traumatic fibroma, hemangioma, angiomas, angiosarcoma, non-Hopkings lymphoma, Kaposi's sarcoma, gingival hyperplastic inflammation, peripheral giant cell granuloma and peripheral ossified fibroma [5]. These last three do not apply in the clinical case presented, due to its location.

The treatment of choice is usually surgical removal, involving the entire base of the growth, letting minimal bleeding and direct wound closure, preferably a margin of two millimeters, as well as eliminating the possible etiological factor [1,2,4,5]. Cryosurgery, electrocautery, laser treatment, injection into the lesion with ethanol or corticosteroids, are other options for treatment [2,4]. Incomplete excision of the granuloma or failure to remove the etiologic factor may contribute to its recurrence; it has been reported that it occurs in a range of 5.8% and 16% after surgical removal [7,8].

The size varies from a few millimeters to several centimeters displaying rapid growth, asymptomatic [8]. Some researchers have examined that PG appears as the process of a reactive or reparative tumor or as an exaggerated reaction of the connective tissue to a minor wound or under any irritation; the underlying connective tissue becomes hyperplastic due to local irritants, the proliferation of granulation tissue leads to the formation of the PG [5,6]. This may include irritation from dental calculus or retained roots and trauma [8]. As well as certain drugs as cyclosporine, according to four cases reporting oral PG in chronic graft-versus-host disease in patients who were under this drug [9]. Cyclosporine is well known for its hyperplastic effect on gingival tissues in 70% of patients taking the drug. It induces fibroblast proliferation, which is associated with increased synthetic activity and an accumulation of extracellular matrix components. Lee et al. conclude that it is possible that this drug may be a factor in the stimulation of hyperplastic granulation tissue due each patient presented the lesions dur-

ing periods of peak cyclosporine levels. However, due to the small number of cases presented, conclusive information cannot be given [10].

Among benign tumors in the oral cavity, PG is one of the most common, since it is a common and easy to manage tumor lesion, it is important identify the characteristic clinical findings of this lesion, however, the final diagnosis depends on the histopathological examination, because every reactive hyperplastic lesions share a likeness in similar clinical appearance [3]. The presumptive diagnosis must be verified to eliminate the suspicions of malignant injury. Thinking about the patient's tranquility and comfort, detailed clinical examination followed by histopathological evaluation is always the gold standard.

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