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Pyogenic Granuloma - A Case Report

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Abstract

Introduction: Pyogenic granuloma, a benign vascular lesion of the skin and mucous membranes, often presents as a reddish nodular overgrowth that can be alarming due to its rapid growth. I report a case of a 40-year-old female who presented with a pyogenic granuloma on her upper right anterior tooth region, which had developed over a few weeks.

Objective : The objective for addressing pyogenic granuloma is to effectively eliminate the lesion, minimize the risk of recurrence, preserve aesthetics and function, ensure patient comfort, conduct histopathological evaluation, and educate the patient about the condition and its management.

Treatment : The patient underwent a simple excision of the lesion under local anesthesia. Post-operative recovery was uneventful, and the cosmetic outcome was satisfactory.

Results : Clinical examination and biopsy confirmed the diagnosis.

Conclusion: This case emphasizes early diagnosis and surgical treatment for pyogenic granuloma, ensuring patient well-being and recurrence prevention through regular follow-up.

Keywords: Pyogenic Granuloma, Case Report, Oral Lesion, Vascular Hyperplasia, Clinical Observation

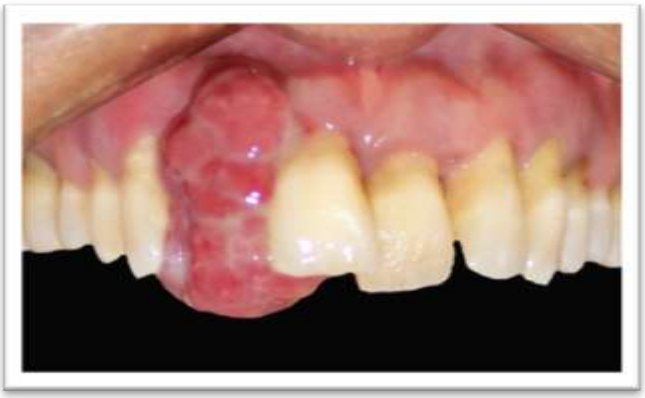
Introduction

Pyogenic granuloma (PG), a benign vascular lesion known by various names such as eruptive haemangioma, granulation tissue-type haemangioma, granuloma gravidarum, lobular capillary haemangioma, pregnancy tumour, or tumour of pregnancy.1˗4 This condition, more prevalent in the second and third decades of life, typically manifests on the skin and mucous membranes, especially the lips, gums, cheeks, and tongue. While often solitary, it can be multiple, originating from ulceration, trauma, small wounds, chronic irritation, or rough patches following dental care. Gingival PG may also be associated with hormonal changes, such as puberty, menstruation, or pregnancy.5 This is a clinical report from Nadiad's Periodontics Department which highlights pyogenic granuloma diagnosis through histology, detailing clinical features and therapeutic approaches in a 40-year-old female's maxillary gingiva case.

Case Report

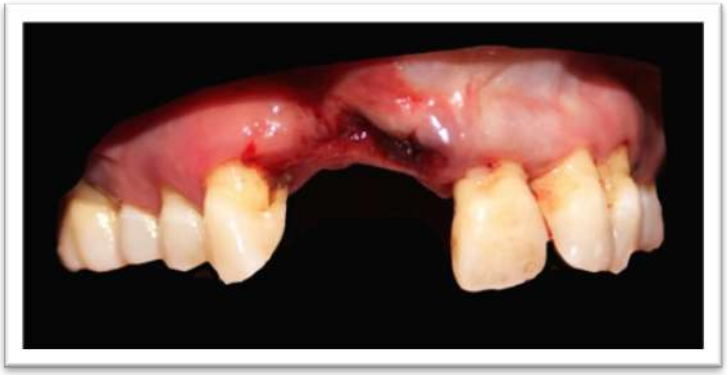
A 40-year-old female patient presented at the Outpatient Department of Periodontics, Faculty of Dental Science, Nadiad, with a chief complaint of gingival swelling in the upper right front tooth region, persisting for 3 months and slowly increasing in volume.

Figure 1



Occasional bleeding during tooth brushing and slight pain were reported. Past dental and medical histories were unremarkable. Intraoral examination revealed a solitary, diffuse, tender pinkish-red growth of approximately 2.0 cm × 2.0 cm × 1.0 cm,*(Figure 1)* involving the palatal gingiva. Orthopantomogram radiograph showed signs of alveolar ridge resorption. Consent was obtained from the patient. Pre-surgery, a complete blood investigation confirmed the patient's overall health. Tests for HIV and hepatitis B surface antigen were negative, ensuring safety for the surgical team. Initial treatment involved oral hygiene instructions and motivation, resulting in improved gingival health after mechanical debridement. The surgical removal of the gingival growth, measuring 2.0 cm × 2.0 cm × 1.0 cm, was performed under local anesthesia with xylocaine and adrenaline 1:80000 concentration. Careful incision, preserving attached gingiva, ensured complete removal of the lesion. *(Figure : 2).*

Figure : 2



The excised tissue underwent histo-pathological examination, and the mobile adjacent tooth was extracted (Figure 4). Postoperatively, the patient received cap. amoxicillin 500 mg every 8 hours for five days and 400 mg of Ibuprofen three times a day for the same period, Along with 0.2% chlorhexidine gluconate twice daily until resuming regular plaque control techniques.

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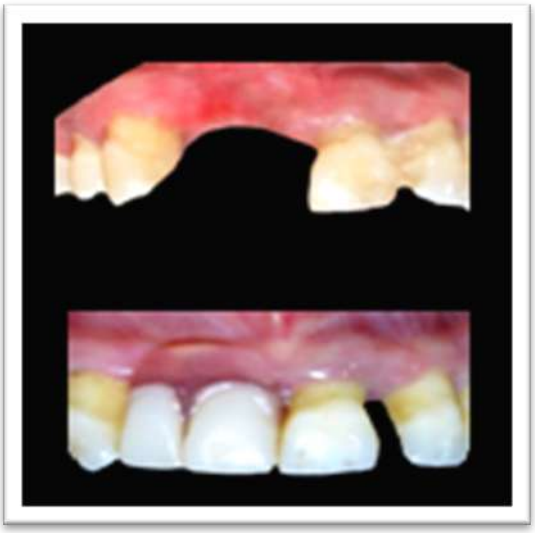
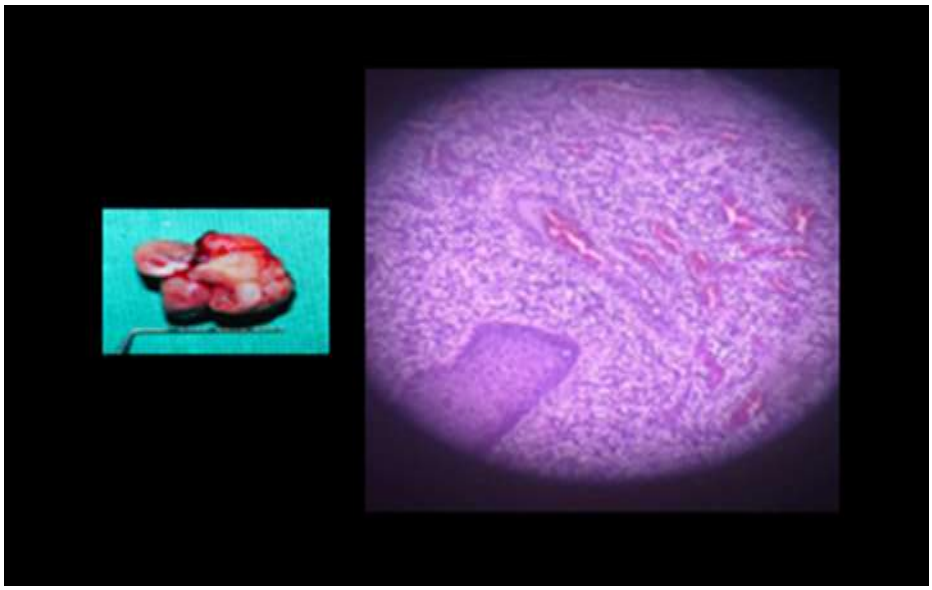
Figure : 3



Follow-up appointments at 1 week, 1 month and 3 months demonstrated favorable healing (Figure 3). The progression remained positive, with no recurrence observed even after 9 months.

The histopathologic examination revealed granulation tissue with non-neoplastic endothelial cell proliferation, blood cell formation, and infiltration of inflammatory cells, accompanied by surface features indicative of hyperplastic stratified squamous epithelium with atrophy, ulceration, and a fibrinoleukocytic membrane.

Figure 4



A thorough consideration of the diverse clinical entities within the oral cavity is essential for an accurate differential diagnosis of pyogenic granuloma, including conditions such as peripheral giant cell granuloma, peripheral ossifying fibroma, hemangioma, and various other lesions with similar clinical presentations.

Discussion

Oral Pyogenic Granuloma, characterized by mucosal vascular hyperplasia, arises from minor injuries or irritations, often triggered by factors like dental calculi and poor oral hygiene.8 The condition involves hyperplastic fibrovascular connective tissue forming granulation tissue, leading to Pyogenic Granuloma development,[10] known for its high

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vascularity and susceptibility to severe hemorrhages. Common in the second decade, especially in females, the lesion typically appears in the maxilla, primarily affecting the gingiva.[12,14] Clinically, it presents as a slow-progressing single nodule, though rapid progression is possible.[11,14] A case involving palatine swelling and bleeding during chewing is highlighted. Histologically, the lesion demonstrates vascular proliferation resembling granulation tissue.[15] Treatment involves lesion removal, with excisional biopsy as the preferred option, considering various modalities.[16,17] Recurrence risk exists, emphasizing postoperative follow-up and oral hygiene.[17] The presented case underwent excisional surgery with a 3-month follow-up revealing recurrence in the palatine region.

Conclusion

In conclusion, Pyogenic Granulomas may develop rapidly, and post-treatment recurrence should be anticipated. Regular follow-up is essential even after effective treatment and definitive diagnosis to monitor for potential recurrences.

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