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Case Study

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PYOGENIC GRANULOMA-CASE REPORTS

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ABSTRACT

Pyogenic granuloma is a benign vascular lesion found predominantly in the oral cavity. Pyogenic granuloma is a non-neoplastic inflammatory reactive hyperplasia commonly found on keratinized tissues caused by chronic irritation, hormonal imbalance, and traumatic injury. Pyogenic Granuloma is found in second to third decade in life and is predilected mainly in females. This Article presents a case of a pyogenic granuloma managed by surgical intervention.

KEYWORDS: Pyogenic granuloma, benign neoplasm, hyperplastic lesion.

INTRODUCTION

Pyogenic granuloma is a non-neoplastic inflammatory reactive hyperplasia commonly found on keratinized tissues caused by chronic irritation, hormonal imbalance, and traumatic injury[1] It is frequently found in females in the second to third decade and has wide age range from children to adults[2] Pyogenic granuloma seen during pregnancy is called as pregnancy tumor[1,2] Clinically it appears as smooth lobulated soft tissue mass pedunculated or sessile, and reddish[3] The term pyogenic granuloma is a Misnomer as it is neither pus producing, Nor represent granulomatous inflammation[4] It typically arises as a result of multiple triggers, like hormonal fluctuations, mild local irritation, traumatic injury, or particular medications[5] Pyogenic Granuloma may develop following a hypersensitivity reaction linked many medications such as carbamazepine, phenytoin, nifedipine. Furthermore, retinoid, antineoplastic, and antiretroviral medications are all related to Pyogenic Granuloma[6] The most common treatment approach is surgical excision with a low recurrence rate.[7]

CASE REPORT 1

A 31 years old female patient presented to the Department of Oral and Medicine, PDU Dental College with a chief complaint of pain and swelling on gums at lower front region of the jaw lasting 2 months and which was gradually increasing in size. On clinical examination a localized gingival swelling of 1.5cm X 1cm size with clear signs of inflammation was present in relation to 42,43(Figure1). The swelling was a smooth exophytic lesion manifested as a small erythematous papule on a sessile base which was hemorrhagic with spontaneous bleeding on probing the area. Extending from distal aspect of 42 to mesial aspect 43(Figure 2).

Figure 1

Figure 2

The lesion was painless and asymptomatic except for the slight discomfort to the patient due to the growth. Physical examination revealed no other abnormalities, and there was no lymphadenopathy. There was moderate supra- and subgingival calculus with moderate gingivitis So by considering all the above features a provisional diagnosis of pyogenic granuloma was made and excisional biopsy was planned. A conventional non-surgical therapy was first of all performed, with full mouth scaling and root planning. The patient was advised to perform and maintain their oral hygiene by brushing twice a day and to use a chlorhexidine mouth rinse of 0.2% twice daily. Prior to 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 clinician. The lesion was further treated with surgical approach. After local anaesthesia, the enlarged localized lesion was excised with help of a 15 no. B.P. blade up to the base of the lesion. It was ensured that the lesion was completely excised by trimming up the remnants of the soft tissue adjacent to the tooth to prevent recurrence of the lesion (Figure 3). Antibiotics and analgesics were prescribed for 1 week. The excised tissue was sent for histological examination.

Figure 3.

Histopathological 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).

Based on a histological report it was finally diagnosed as a pyogenic granuloma.

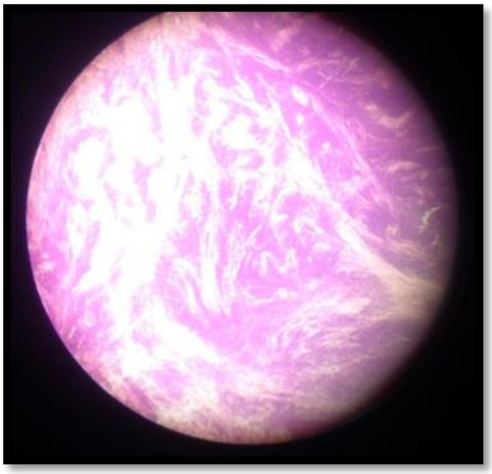

Figure 4.

A 3 months later follow up was done (Figure 5 and 6)

Figure 5.

Figure 6.

CASE REPORT 2

A 50 years old female patient presented to the Department of Oral and Medicine, PDU Dental College with a chief complaint of swelling on gums at lower front region of the jaw lasting 2 months and which was gradually increasing in size. On clinical examination a localized gingival swelling of 3cm X 4cm size with clear signs of inflammation was present in relation to 33 and

34. Single smooth sessile reddish pink spherical in shape overgrowth present on mandibular left anterior region extending interdentally with relation to mesial aspect of 33 to distal aspect of 34. Superiorly at the level of cervical one third of labial aspect of 33 and 34 .Inferiorly upto the vestibule of 33 and 34(Figure 7 and 8)

Figure 7.

Figure 8.

The lesion was asymptomatic and painless, causing only slight discomfort to the patient due to its growth. Physical examination showed no other abnormalities, and there was no evidence of lymphadenopathy. There was moderate supra- and subgingival calculus with moderate gingivitis. Grade II mobility was present w.r.t 33,34. So by considering all the above features a provisional diagnosis of pyogenic granuloma was made and excisional biopsy was planned. The patient was advised to perform and maintain their oral hygiene by brushing twice a day and to use a chlorhexidine mouth rinse of 0.2% twice daily. Prior to 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 clinician. The lesion was further treated with surgical approach. After local anaesthesia, the enlarged localized lesion was excised with help of a 15 no. B.P. blade up to the base of the lesion. The lesion was completely excised by performing excisional biopsy followed by extraction of 33,34 (Figure 9)

Figure 9.

The Histopathological examination revealed that Given H and E stained section shows stratified squamous epithelium with basilar cell hyperplasia, underlying connective tissue is highly inflammed and fibrocellular in nature suggestive of Pyogenic Granuloma (Figure 10)

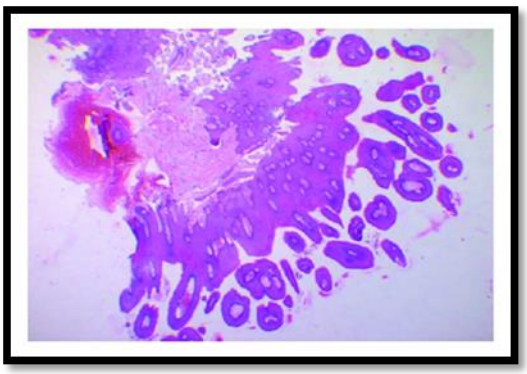

Figure 10.

A 3 months later follow up was done (Figure 11)

DISCUSSION

Oral pyogenic granuloma, marked by mucosal vascular hyperplasia, typically develops due to minor injuries or irritations, often triggered by factors such as dental calculus and poor oral hygiene. The condition is characterized by the formation of hyperplastic fibrovascular connective tissue, which creates granulation tissue and results in the development of

pyogenic granuloma.[8] The lesion is most common during the second decade of life, particularly in females, and usually occurs in the maxilla, primarily affecting the gingiva[9] Clinically, it typically appears as a slow-growing single nodule, although rapid progression can occur[10] Histologically, the lesion shows vascular proliferation similar to granulation tissue. Treatment typically involves removal of the lesion, with excisional biopsy being the preferred method, though other modalities may also be considered. There is a risk of recurrence, highlighting the importance of postoperative follow-up and maintaining good oral hygiene.[11] The Patient underwent excisional surgery with a 3-month follow-up accordingly.

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