

PYOGENIC GRANULOMA -A CASE REPORT

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ABSTRACT

Pyogenic granuloma is a benign tumor like growth and is considered as a non neoplastic and inflammatory hyperplasia of oral cavity. It is often caused by low grade trauma, poor oral hygiene or may be due to hormonal disturbances. Surgical excision and removal of underlying cause is the preferred treatment as it is only a benign lesion. Scalpel, cryosurgery, diathermy and laser are various types of treatment modalities. This case report reviews the clinical and histologic characteristics and treatment, recovery phase when soft tissue diode laser is used.

KEYWORDS: Pyogenic granuloma, soft tissue diode laser, Benign lesion.**INTRODUCTION**

Pyogenic Granuloma or Granuloma Pyogenicum is an inflammatory hyperplastic lesion that generally occurs on skin and mucus membranes, especially on the lips, gums, cheeks and tongue. The etiological factors include Poor oral hygiene, foreign material in the gingiva, calculus, and local irritants. Physical trauma, bacteria, viruses and certain drugs have been considered as contributory factors in the development of pyogenic granulomas. The hormonal changes as puberty, menstruation or pregnancy can also lead to the development of pyogenic granuloma it develops in about 5% of pregnancies and hence also known as pregnancy tumor.

The term Pyogenic Granuloma was coined in 1904 by Hartzell.

Pyogenic granuloma can be found at any age but is more common in the second and third decades of life mostly in females.

It is often singular but sometimes multiple. Clinically these lesions appear as painless, sessile or pedunculated exophytic masses with a base beginning from the gingival margin or sometimes from the interproximal tissues in the maxillary anterior. The size can vary from case to case but it hardly ever exceeds 2cm.^[2,6,7]

The term pyogenic granuloma is a misnomer because it's not a true granuloma and doesn't contain pus.^[4]

Pyogenic Granuloma can be treated by various techniques as scalpel, cryosurgery, electrocauterization and laser. Conventional surgery can lead to various complications such as intraoperative bleeding, difficulties in wound healing and maintenance of sterility during surgery. Lasers are used most commonly in dental practice due to its superior coagulative ability and less intraoperative bleeding.

Diode lasers present a solid semiconductor as active medium, by associating aluminium, gallium, and arsenate (with wavelengths varying between 800 and 980 nm) in the visible and invisible range of near infrared waves. Diode laser is safe and well indicated for soft oral tissue surgeries as its wavelength is poorly absorbed by hard dental tissue. Lasers can be safely used in the areas near the dental structures and for cutting, vaporization, curettage, blood coagulation, and hemostasis.^[1,3,13]

This case report presents a case of Pyogenic Granuloma in the Periodontology Department at Kanti Devi Dental College and Hospital, Mathura. The diagnosis of pyogenic granuloma was confirmed by the histology and with an emphasis on the clinical and histological features and therapeutic modalities.

CASE REPORT

A 38 years old female patient reported to the department of Periodontics, KDDC with a chief complaint of swelling and painless growth in the gums of upper front

tooth region since 2 years. She also complained of bleeding while brushing from that region.

Extra oral examination was non significant. Lymph nodes were non palpable and non- tender.

Intra oral examination on inspection a solitary discrete gingival over growth was visible on labial aspect and interdental gingiva of maxillary anterior region measuring about 1 -1.5 cm in size. Growth was roughly oval in shape, colour varies from pink to pinkish red and surface was shiny and smooth. On palpation growth was soft in consistency, tender and bleed profusely on probing. Poor oral hygiene with presence of plaque and calculus was also detected.

Based on clinical findings, the case was provisionally diagnosed as 'pyogenic granuloma'. Intraoral periapical radiograph was taken and no bony involvement was seen.

Routine blood investigations were done and were observed to be within normal range.

An informed consent for treatment was taken from the patient.

Treatment started with phase 1 therapy that includes scaling, root planing and oral hygiene instructions. Patient was recalled after one week and the complete surgical excision of the lesion was done by using diode laser. Periodontal dressing was placed. The patient was discharged with postoperative oral hygiene instructions with 0.2% chlorhexidine mouth wash, analgesics and antibiotics and recalled after a week for evaluation.

Histopathological Evaluation The excised tissue sample was sent within 10% formalin solution for histopathologic evaluation. The histopathologic results showed variation in thickness of the stratified squamous parakeratinised epithelium. Connective tissue showed dense inflammatory infiltrate mainly consisting of plasma cells, lymphocytes, abundant blood vessels, collagen fibers and extravasated red blood vessels. The above histopathologic findings were suggestive of pyogenic granuloma



Figure 1: Pre – operative image.



Figure 2: Radiographic image.



Figure 3: After phase 1.



Figure 4: Incision by Diode Laser.



Figure 5: Surgical Excision.



Figure 6: Immediate post- operative.

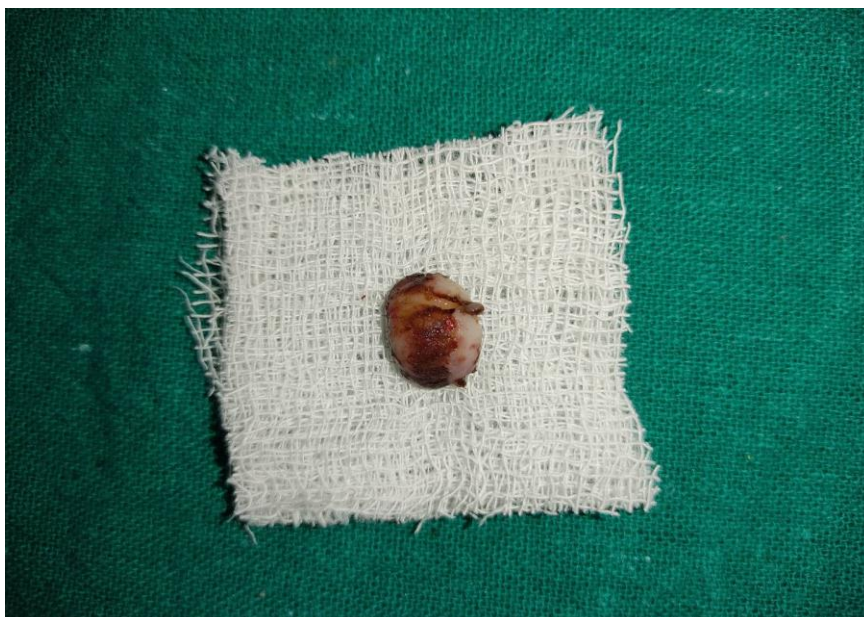


Figure 7: Excised tissue.

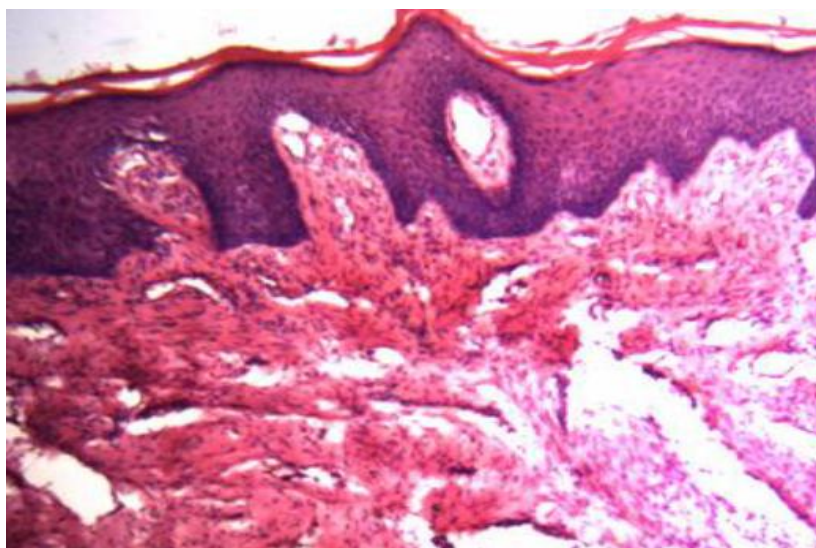


Figure 8: Histopathological Picture.



Figure 9: Coe pack placement.



Figure 10: Diode laser.



Figure 11: After 15 Days (follow-up).



Figure 12: After 6 months (follow-up).

DISCUSSION

Pyogenic granuloma is a non-neoplastic reactive gingival lesion. It is a nonspecific gingival enlargement and presents exuberant tissue response to local irritant such as dental plaque, calculus, defective restoration, trauma and iatrogenic factor. Due to these irritants the underlying fibro vascular connective tissue becomes hyperplastic and there is proliferation of granulation tissue that further leads to pyogenic granuloma.^[5,8]

Pyogenic granuloma may occur at all ages but predominantly in females possibly due to vascular effects of female hormones. The prevalence of pyogenic granuloma in pregnant women varies between 5-8% most commonly after the first trimester of pregnancy. The term pregnancy tumour or gravidarum is oftenly used for Pyogenic granuloma. The maxillary gingiva involvement is more frequently seen than the mandibular gingiva, the facial gingiva is more involved than the lingual gingiva.^[9]

Differential diagnosis of lesion includes peripheral giant cell granuloma, peripheral ossifying fibroma, metastatic cancer, haemangioma, non Hodgkin's lymphoma.

The treatment of choice of these lesions is surgical resection with margins of 2mm from its periphery. Pyogenic granuloma presents a high recurrence rate may be because of incomplete excision, failure to remove etiological factor, reinjury to area. In this case report after initial therapy surgical excision of the lesion was done through laser and tissue was sent for biopsy and histopathological report confirmed pyogenic granuloma. After 2 weeks, complete healing was observed and no recurrence was noticed during maintenance sessions till 1year.^[10,11,12]

CONCLUSION

Pyogenic granuloma is a slow growing benign lesion. Excision of pyogenic granuloma sometimes can lead to

excessive bleeding due to high vascularity. Lasers can be considered as an effective and safe technique for excision of such lesions due to its minimal invasion and less intraoperative bleeding and coagulative properties. Careful excision along with the stalk is essential to prevent recurrence of it. A proper diagnosis and management of the lesion helps in preventing the recurrence of this lesion.

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