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MANAGEMENT OF PYOGENIC GRANULOMA IN PREGNANCY WITH DIODE LASER: A CASE REPORT

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ABSTRACT

Pyogenic granuloma is Non-neoplastic lesion of oral cavity. It occurs mostly due to extreme tissue response to traumatic injury, consistent local irritation, and hormonal factors. Removal of this lesion during pregnancy have higher recurrence rate. There are several treatment modalities to correct such types of lesions. This article emphasizes the treatment of lesion with the diode laser. Laser surgery is preferred method because good patient comfort, easy application, short operation time without bleeding and suturing and less chances of recurrence. This case report presents a 24 years old pregnant female patient who had reported with the lesion. The lesion was excised with diode laser and after 12-month follow -up period, the patient did not show any recurrence of the lesion.

KEYWORDS: Pyogenic Granuloma, diode laser pedunculated, sessile.

INTRODUCTION

Any large nodular Growth of oral mucosa is known as inflammatory hyperplasia.[1] Pyogenic granuloma is a common tumour-like lesion of oral cavity. In 1844 Hullihen first presented a report and termed it as pyogenic granuloma.[2] Later in 1904, Hartzell termed it as granuloma pogenicum.[3] It is a rapidly growing lesion that develops in response to local irritation that is poor oral hygiene, Overhanging restorations), trauma and incresed hormonal level.[4] It is erytrematous, painless, smooth or lobulated mass that often bleeds on touch. Gingiva is most common region for the development of the PG, less common affected regions are lip, tongue and buccal mucosa. The size of lesion can vary in diameter from few millimeters to few centimeters.[5] PG most frequently develops on the gingival in the interproximal tissue of teeth. Prevalence of PG is more common in females in the second decades of life, probably due to vascularization effect of the hormones that is estrogen and progesterone.[6] The 75% of

lesion arises due to local factors such as calculus or any foreign material[7] and 5% during to pregnancies. The consistant presence of these stimulants and gingival tissue leads to the occurance of PG and the continuous irritation of fibrovascular connective tissue leads to exuberant proliferation of the granulation tissue.

The deciduous teeth injury, aberrant tooth development, and even tooth eruption is also predisposing factor for the development of PG.[8] It usually occurs during the first trimester of pregnancy and grows rapidly during the period, due to increased hormonal level. The lesion usually develops slowly and it is asymptomatic, but in some cases it grows fast, reaches its full size and remains stable. The differential diagnosis for the lesion is Peripheral giant cell granuloma, peripheral ossifying fibroma, hemangioma, conventional granulation tissue, angiosarcoma, kaposi's sarcoma, bacillary angiomatosis and metastatic cancers.[9] The final diagnosis can be established only after the histopathological examinations. There are several treatment modalities has been established for the treatment of PG. Excision of lesion using the diode laser does not shows any deleterious effect. The excision of lesion should at least involve the 2mm of surrounding healthy tissue. Although the lesion does not having the potential of malignant transformation but the recurrence potential is quite high that is 15.8%. The recurrence of lesion can be possible due to deficient excision, incomplete removal of etiological factors and due to re-injury of the lesion.[10]

This article presents a case report of 24 years old female who had PG. the lesion was removed by the diode laser. The patient was followed up for the 2 month period following the conservative excision procedure.

CASE REPORT

A 24 years old female patient in first trimester of pregnancy reported at the department of periodontology, at carrer post graduate institute of dental sciences and Hospital, Lucknow with the chief complain of swelling on the left maxillary front teeth region since 2-3 weeks. Initially the lesion was painless and small in size then it gradually increased with time. It caused discomfort to the patient and also easily bleeds on slight provocation such as eating of foods or brushing.

Patient had not given any relevant medical and family history. On intraoral examination, the lesion was present around left labial maxillary region the extension of lesion was from the distal end of left maxillary lateral incisor to distal aspect of first premolar. Lesion was sessile,

15mm x10mm in size lobulated soft and friable in texture with sessile base and reddish pink in color as in (figure 1), which bleed on slight provocation. Patients oral hygiene status was fair. The introral periapical radiograph shows no horizontal and vertical bone loss in the associated region. On the basis of clinical findings the provisional diagnosis was PG. The etiology and the nature of the lesion is explained to the patient. A written signed informed consent was taken from the patient before the procedure. As overall oral hygiene of the patient was not satisfactory patient is adviced to maintain the oral hygiene.

The area that has to be treated is anaesthetized with local anaesthesia that is 0.2% lignocaine with 1:200,000 adrenaline. A full thickness incision is given around the circumference of the lesion. The lesion removed with diode laser from the distal aspect of maxillary lateral incisor to the mesial aspect of the maxillary first premolar circumferentially including 2mm of an adjacent healthy gingival region. Removal of lesion with laser exposed the bone of that region. The excised lesion is sent for the histopathological evaluation. Coe-pack is placed on the exposed surface of healthy tissue.

The patient was prescribed amoxicillin 500 mg and paracetamol 500 mg for 5 days. Further she was prescribed 0.12% of chlorhexidine mouthwash.

The histopathological section showed an ulcerated area covered with fibrin exudates. The epithelium appeared hyperplastic, edematous, and was infiltrated with inflammatory cells. The lesion had a fibrous appearance with neutrophils, plasma cells and lymphoctyes inflammatory cell infiltrate. The clinical and histopathological examination confirms that the lesion was PG.

CASE REPORT

Fig 1:- Facial view of PG.

Fig 2:- Extension of lesion.

Fig 3:- Excised lesion.

Fig 4:- After excision.

Fig 5:- 2 weeks follow up period.

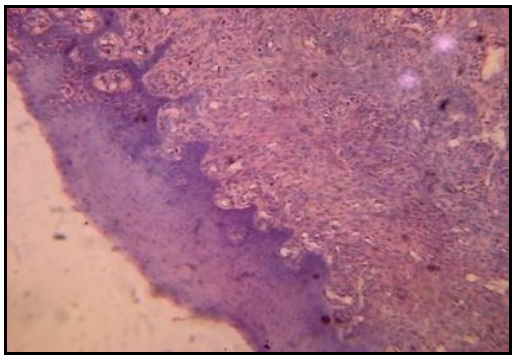

Fig 5:- Histopathological section Shows dense inflammatory cells infilterate suggestive of PG.

Patient was recalled after 2 weeks, the lesion had completely healed and patient was not complaining any kind of discomfort. Patient was adviced to maintain oral hygiene properly. Follow up was done for 2 months and there was no recurrence of the lesion.

DISCUSSION

PG is an inflammatory hyperplastic oral lesion. It comprises about the 1.85% of oral lesion, other than caries and gingivitis. Usually, the lesion is not painful but little trauma will lead to bleeding.[11] It arises due to low‑grade local irritation, traumatic injuries, and hormonal

fluctuations. PG creates esthetic problem that ultimately leads to functional problems with speaking and mastication.

According to Ojanotko‐Harri, *et al*., (1991) the progesterone acts as immunosuppressant in the gingival tissue of pregnant women, that prevents the rapid inflammatory reactions, but allows increase in chronic tissue reaction, that leads to appearance of inflammation.[13] There is no any clinical and histological difference present in the PG that is present in pregnant and non-pregnant patient.

Powell, *et al*. (1994) proposed the use of Neodymium: Yttrium Aluminium Garnet (Nd: YAG) laser for the excision of this lesion.[14] In 2011 Rai, *et al*. have reported the beneficial effect of diode laser for the excision of lesion.[15]

CONCLUSION

The use of diode laser for removal of PG is a safe technique with various advantages including the bloodless surgical field. The advantages of using diode laser are lesser intraoperative bleeding, less time required for surgery and lesser pain. Thus the removal of lesion with diode laser is a safer technique.

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