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Case Study

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# ORAL PYOGENIC GRANULOMA-A CASE REPORT

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**ABSTRACT**

Pyogenic granuloma is one of the inflammatory enlargement seen in the oral cavity. However, the term pyogenic granuloma is a misnomer, because the lesion is unrelated to infection and it arises in response to various stimuli such as low-grade local irritation, traumatic injury or hormonal factors. It is predominantly occurs in the second decade of life in young females, because of the vascular effects of female hormones. Excisional surgery is the treatment of choice, some other treatment such as the use of Diode laser, ND-YAG laser, flash lamp pulsed dye laser, cryosurgery, Intralesional injection of ethanol or corticosteroid and sodium-tetradecylsulfate sclerotherapy have been proposed.

**KEYWORDS:** Pyogenic granuloma, Inflammatory hyperplasia.

## INTRODUCTION

Pyogenic granuloma or granuloma pyogenicum is a benign vascular proliferation of the skin or mucous membranes characterized by rapid growth and friable surface. Non-neoplastic, painless, nodular growth arising from the interdental papilla specially in anterior region of maxilla. It is smooth or lobulated exophytic lesion manifesting as small, red erythematous papules on a pedunculated or sometimes sessile base, which is usually hemorrhagic and they are usually solitary, well circumscribed, dome shaped, 1-10mm in diameter. Poor oral hygiene leading to accumulation of plaque and calculus and overhanging restorations are said to be the most common precipitating factors. Other etiological agents include use of certain immunosuppressive drugs and oral contraceptives. Non-specific bacterial infection is thought to be a secondary involvement rather than being the main etiology of this lesion. It may occurs at any age but more often in children, young adults and pregnant women (pregnancy tumor). They do not have potential for malignant transformation, but often recur. However, the term pyogenic granuloma is a misnomer, originally these lesions were thought to be caused by bacterial infection.[1,2]

The disease was first developed by Poncet and Dor in 1897 as a “botryomycosis hominis”. The term “Pyogenic granuloma” was introduced by Hartzell in 1904; However its first description in English Literature was given by Hullihen in 1804. It has since been names by a variety of names including lobular capillary hemangioma, granuloma pyogenicum and granuloma telangiectaticum, vascular epulis, Crocker and Hartzell's disease.[3,4]

## CASE REPORT-1

A 22 year old male reported to the department of Periodontics, Kanti Devi Dental College & Hospital, complaining of a swelling in the upper anterior jaw region, which caused discomfort while eating. The patient reported that he noticed a swelling in the last 6 months, which was painless and gradually increase in size, during this he had visited a medical doctor who had given him gum paint for application. He had stopped brushing the area due to bleeding from the area.

On extraoral examination, swelling was visible on the upper anterior region. Intraoral examinations revealed a large sessile lobulated gingival overgrowth extending on labial surfaces of 21 & 22. It was reddish pink in color and was approximately 1 cm in size. The surface was smooth no ulcerations were seen and it appeared ovoid in shape.

**Figure 1A: Preoperative View (Swelling on Labial aspect of incisiors).**

**Figure 1B: Intraoperative View.**

**Figure 1C: Intraoperative View ( Exicised tissue).**

**Figure 1D: Intraoperative View (After Excision).**

**Figure 1E: Postoperative View (1 week follow-up).**

**CASE REPORT-2**

A 20 yr old boy came to the Department of Periodontology with chief complaint of swelling on maxillary anterior region, which caused discomfort while eating. Patient reported that he noticed a swelling in the last 1 yr, which was painless and gradually progress in size during this period, he had consulted physician intervention. He had stopped brushing this site due to bleeding from this area. On extraoral examination swelling was visible on the upper anterior region. Intraoral examination revealed a large sessile lobulated gingival overgrowth extending on labial surfaces of 11 & 12. It was pinkish in color and was approximately 0.7 cm in size.

**Figure 2A: Preoperative View (Swelling on Labial aspect of incisors).**

**Figure 2B: Intraoperative View using Diode Laser.**

**Figure 2C: Intraoperative View (Excision performed using Diode Laser).**

**Figure 2D: Intraoperative View after excision.**

## DISCUSSION

Pyogenic granuloma begin small and grow rapidly often over a period of days, weeks or months. Clinically pyogenic granuloma is generally seen as a smooth or lobulated exophytic lesion with a pedunculated or a sessile base. They can grow upto several centimetres often developing a stalk or collarette of scale at the base. The irritating factor can be calculus, poor oral hygiene, nonspecific infection, over hanging restorations, cheek biting etc. Because of this irritation, the underlying fibrovascular connective tissue becomes hyperplastic and there is proliferation of granulation tissue which leads to the formation of a pyogenic granuloma. They are commonly found as solitary lesions on the hand, face and upper trunk, however they can be found on any area on the body, including the mucosal surfaces and perianal area. The gingiva is the most common site affected followed by the buccal mucosa, tongue and lips. The lesion may appear in a site following trauma or infection, however in most of cases there is no apparent cause. The condition is not usually painful and can resolve within several months, though most patients seek treatment for discomfort and cosmetic reasons, as the lesion can bleed profusely.[5,6]

According to Vilmann et al, the majority of the pyogenic granulomas are found on the marginal gingiva with only 15% of the tumors on the alveolar part. Studies by Zain RB *et al.*, in Singapore populations have also shown the greatest incidence of pyogenic granuloma in the second decade of life.

Treatment of pyogenic granuloma involves a complete surgical excision with scalpel **Figure-1b**, which promotes better healing and reduced postoperative discomfort & pain. The recurrence rate for pyogenic granuloma is said to be 16% of the treated lesions and so re-excision of such lesions might be necessary. **Figure-2b**, Excision done with diode laser, which promotes significant healing after 1 week follow-up, that reduces postoperative pain and discomfort. Both the patients advised to use Chlorhexidine mouthrinse and Metrohex plus gel. Histologically, the surface epithelium may be intact, or may show foci of ulcerations or even exhibit hyperkeratosis. It overlies a mass of dense connective tissue composed of significant amounts of mature collagen. Pyogenic granuloma can be adequately treated with the correct diagnosis and proper treatment planning. A careful management of the lesion also helps in preventing the recurrence of this benign lesion.[7,8]

## CONCLUSION

Pyogenic granulomas are commonly encountered soft tissue enlargements. However, etiopathogenesis of oral pyogenic granuloma is still debatable. Although pyogenic granuloma is a non-neoplastic growth in the oral cavity, proper diagnosis, prevention, management and treatment of the lesion are very important.

Meticulous oral hygiene should be maintained. Surgical excision with diode laser of the growth, along with curettage should be done to prevent recurrences of this common lesion.

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