

## A Case Report of Granuloma Pyogenicum

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**Abstract:** Granuloma pyogenicum or Pyogenic granuloma is an inflammatory hyperplasia affecting the oral tissues. It is a tumour-like growth of the oral cavity, which usually arises in response to nonspecific infection, irritation, physical trauma or hormonal factors. The condition is frequently associated with periodontal pain and discomfort, in some cases interfering with mastication and creating esthetic problems. The condition is frequently associated with recurrence, and has more predilections towards females. We report a case of pyogenic granuloma of gingiva in 12 years old male.

**Keywords:** Pyogenic granuloma, Hyperplasia, granuloma pyogenicum.

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### INTRODUCTION:

Pyogenic granuloma is a kind of inflammatory hyperplasia found in oral cavity considered to be non neoplastic in nature[1,2]. Hullihen was first to describe the case of pyogenic granuloma in English literature[3]. In 1904, Hartzell[4] gave the current term of "pyogenic granuloma" or "granuloma pyogenicum"[3,4]. Pyogenic granuloma also known as a "Eruptive hemangioma" "Granulation tissue-type hemangioma", "Granuloma gravidarum", "Lobular capillary hemangioma" and "Pregnancy tumor".

Pyogenic granuloma predominantly occurs in young females in the second decade of life, possibly because of a vascular effect due to hormonal changes[4]. It is a hyperactive benign inflammatory lesion commonly seen in the oral cavity with gingiva being the most common affected site followed by buccal mucosa, tongue and lips. It usually arises in response to various stimuli such as lowgrade local irritation, traumatic injury, hormonal factors, or certain kinds of drugs. It appears as an elevated, pedunculated or sessile mass with a smooth or lobulated surface. It is deep red or reddish-purple in colour, and the surface may be ulcerated. It also has tendency to bleed, either spontaneously or on provocation with slight trauma. We here report one such case in 12 years old boy.

The growth was small in size and was stable for 1½ years, but was increasing in size slowly since past six months. The patient had not taken any treatment and had no relevant medical history. The patient brushed his teeth once daily consumed a mixed diet.

On Intraoral examination, the growth was seen in the gingiva in relation to maxillary right central incisor which was painless. The growth was 0.7 × 0.8 cms in size, roughly oval in shape, reddish, ulcerated, soft and was associated with bleeding on Probing. The growth covered approximately 2/3 of the crown. The oral hygiene status was fair and width of attached gingiva was adequate. The over jet was decreased and overbite was increased. Intra oral periapical radiograph revealed mild marginal bone loss. Blood examination was normal. The treatment comprised of oral prophylaxis and surgical excision of the growth under local anesthesia and the biopsy was sent for histopathological examination.

### CASE HYSTORY:

A 12 years old boy was referred to the department of pedodontics with a complaint of growth over the gum in the left upper front teeth since 2 years.



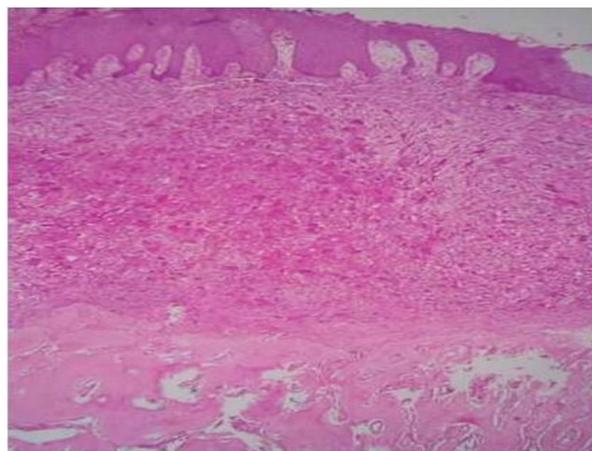
**Fig-1: Lobulated growth (pre-surgical)**



**Fig-2: Gross image**



**Fig-3: Post-operative image**



**Fig-4: Histology showing vascular channels and inflammatory cells in a connective tissue stroma.**

Grossly, the mass was greyish pink to dark red in color and was measuring 1x0.8x0.6 cms. Histological examination of the growth revealed stratified squamous orthokeratinized epithelium covering cellular connective tissue. The epithelium shows area of ulceration below which can be seen inflammation in the connective tissue stroma comprising of lymphocytes and plasma cells. Stroma also shows proliferating fibroblasts and endothelial lined capillaries. There was no evidence of atypia or malignancy. The clinical and histopathological findings confirmed it to be a case of pyogenic granuloma.

#### **DISCUSSION:**

The pyogenic granuloma is a relatively common, tumor like, exuberant tissue in response to localized irritation or trauma. The name pyogenic granuloma is a misnomer since the condition is not associated with pus and does not represent a granuloma histologically[5]. It is a reactive inflammatory process filled with proliferating vascular channels, immature fibroblastic connective tissue, and scattered inflammatory cells. The surface usually is ulcerated, and the lesion exhibits a lobular architecture. The pyogenic granuloma most frequently develops on the buccal gingiva in the interproximal tissue between teeth. Three quarters of all oral pyogenic granulomas occur on the gingiva, with the lips, tongue (especially the dorsal surface), and buccal mucosa also affected. A history of trauma is common in extragingival sites, whereas most lesions of the gingiva are a response to irritation. Individuals with poor oral hygiene and chronic oral irritants (eg, overhanging restorations, calculus) most frequently are affected. Females are far more susceptible than males because of the hormonal changes that occur in women during puberty, pregnancy, and menopause. The pyogenic granuloma has been called a "pregnancy tumor" and does occur in 1% of pregnant women. When possible, wait until after delivery to remove the lesion in pregnant women because of a greater tendency for recurrence during pregnancy. In a number of cases, mastication on the

lesion causes bleeding and pain and requires surgical intervention before parturition. Some pyogenic granulomas regress after childbirth without surgical intervention. Pyogenic granulomas occur at any age, but they most frequently affect young adults. Early lesions bleed easily due to extreme vascularity. Pyogenic granulomas can have a rapid growth pattern that can cause alarm. If left alone, most pyogenic granulomas undergo fibrous maturation and resemble and/or become fibromas. The typical lesion involves the interproximal gingiva and increases in size to cover a portion of the adjacent teeth. The maxillary gingiva (especially in the anterior region) is involved more frequently than the mandibular gingiva; the facial gingiva is involved more than the lingual gingiva. A numbers of lesions affect both the facial and lingual gingivae.

Pyogenic granulomas usually present as smooth or lobulated red-to-purple masses that may be either pedunculated or sessile. As lesions mature, the vascularity decreases and the clinical appearance are more collagenous and pink. Pyogenic granulomas vary in size from a few millimeters to several centimeters and are painless. These tumors are soft to palpation. A history of trauma is common in extragingival sites, whereas most lesions of the gingiva are a response to irritation. Individuals with poor oral hygiene and chronic oral irritants (eg, overhanging restorations, calculus) most frequently are affected. Histologic examination reveals sectioned soft tissue consisting of a lesion composed of ulcerated mucosa covering a core of cellular fibrous connective tissue admixed with proliferating vascular channels and a mixed inflammatory infiltrate. This lesion is a reactive/inflammatory process.

The treatment of choice is conservative surgical excision. For gingival lesions, excising the lesion down to the periosteum and scaling adjacent teeth to remove any calculus and plaque that may be a source of continuing irritation is recommended. Pyogenic granuloma occasionally recurs, and a reexcision is necessary. The recurrence rate is higher for pyogenic granulomas removed during pregnancy. The only outpatient care is observation of the surgical healing 1 week after removal. Prevention consists of routine dental cleanings and home care, especially during pregnancy. No complications are anticipated with removal of this lesion other than the chance of a cosmetic gingival defect. The prognosis is excellent, and the lesion usually does not recur unless inadequately removed. Lesions removed during pregnancy may have a higher recurrence rate.

#### CONCLUSION:

Pyogenic granuloma can be managed well with surgical resection and the chances of recurrence are minimal if properly removed. Clinically, differential diagnoses are many for intra-oral swellings and only

the histological study will help to attain the correct diagnosis and proper management.

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