

## Pyogenic Granuloma in an Old Age Female: A Case Report.

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### Case Report

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#### ABSTRACT

Pyogenic granuloma (PG) is one of the inflammatory hyperplasias seen in the oral cavity. It is a tumor like gingival enlargement that is considered an exaggerated conditioned response to minor trauma. It predominantly occurs in second decade of life in young females, possible because of the vascular effects of female hormones. Clinically it is a smooth or lobulated exophytic lesion, pedunculated or sometimes sessile base, which is usually hemorrhagic. Treatment consists of removal of the lesions plus the elimination of irritating local factors. This article describes a case of 60 year old nonpregnant female with a large oral pyogenic granuloma.

#### INTRODUCTION

Pyogenic granuloma is a kind of inflammatory hyperplasia. Hüllihen's (1844) reported the first case of pyogenic granuloma [1]. The term "Pyogenic granuloma" or "granuloma pyogenicum" was introduced by Hartzell (1904) although it is a misnomer since the condition is not associated with pus and does not represent a true granuloma [2]. Although this lesion is reported in all age groups, the peak incidence is reported in third decade of life affecting women more often than men. Clinically oral pyogenic granuloma is a smooth or lobulated exophytic lesion pedunculated or sometimes sessile base, which is usually hemorrhagic.

#### Case Report

A 65 year old female patient reported to outpatient department of Periodontics, Mahatma Gandhi Dental College and Hospital, Jaipur, Rajasthan, with chief complaint of swollen gum in the upper anterior region since 8-9 months which gradually increased to present size (Fig.1). Patient gave no relevant medical history. Patient had a poor oral hygiene and brushed her teeth with toothbrush and toothpaste with horizontal strokes.



Figure 1: Pyogenic granuloma in the region of maxillary anterior teeth

Intra-oral examination revealed a localized, well circumscribed, exophytic growth of gingiva measuring about 1.5-2 cm in size with erythematous surface and sessile base. The swelling was firm and non tender on palpation with no bleeding extending from distal of 12 to mesial of 21. Radiographic examination revealed interdental alveolar crestal bone loss (Fig. 2). Phase I therapy was performed and the lesion was excised under local anesthesia (Fig. 3,4) . The excision area was covered with periodontal pack and evaluated after one week for healing (Fig.5).



Figure 2: Radiographic picture of the maxillary anterior region showing crestal bone loss in relation to 11.

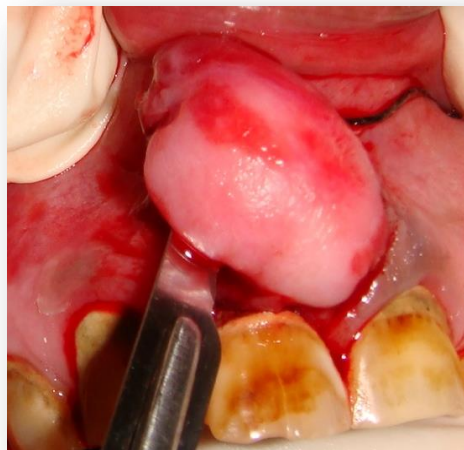


Figure 3: Excision of lesion by conventional surgical technique

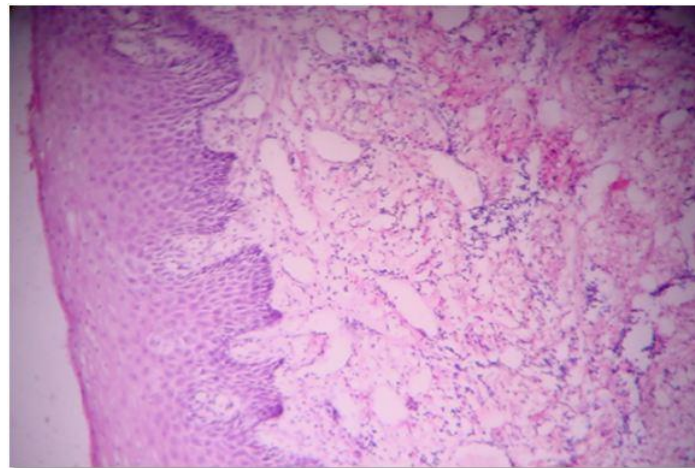


Figure 4: Immediate post-operative picture



**Figure 5: post-surgical healing after 15 days**

Differential diagnosis peripheral giant cell granuloma, irritational fibroma, capillary hemangiomas & metastatic tumor was made. Histopathological examination revealed a stratified squamous epithelium showing hyperplasia with increased keratinization with proliferating retepegs & underlying connective tissue showed lots of proliferating blood vessels, formation of vascular spaces in fibrocellular stroma infiltrated with inflammatory cells, confirming the clinical diagnosis of Pyogenic granuloma (Fig. 6).



**Figure 6: Histopathologic picture of pyogenic granuloma**

## DISCUSSION

Peralles PG et al in their clinicopathologic study conducted on gingival & alveolar hyperplastic reactive lesions observed that inflammatory gingival hyperplasia & oral pyogenic granuloma were the most common diagnosis [3]. Various authors have suggested other names for PG such as human botryomycosis, hemangiomas granuloma, granuloma telangiectacticum and pregnancy tumor.

In an analysis of 244 cases of gingival lesions in south Indian population, Shamim T et al. found that non neoplastic lesions accounted for 75.5% of cases with oral pyogenic granuloma being most frequent lesion, accounting for 52.71% cases [4].

Oral Pyogenic granuloma is the most common gingival tumor showing a striking predilection for the gingiva followed by lips, tongue & buccal mucosa. Lesions are more common in maxilla than in mandible; anterior gingiva is more affected than the posterior gingiva. Also the lesion is more common on facial aspect than on lingual or palatal. According to Vilmann et al [5], majority of the pyogenic granuloma are found on the marginal gingiva with only 15% on the alveolar part. The size varies in diameter from a few millimeters to several centimeters. Rarely does pyogenic granuloma exceed 2.5 cm in size & usually reaches its full size within weeks or months, remaining indefinitely thereafter. Although PG may occur in all ages, it is predominant in second decade of life in young adult female, possible because of vascular effects of female hormones. In our case, patient was in the sixth decade of her life, it was in accordance with a

study by Epivatianos et al, who reported that the average patient age was 52 years with a peak incidence of occurrence in sixth decade of life <sup>[6]</sup>.

The etiology of Pyogenic granuloma is unknown. It is believed that low grade trauma or irritation, hormonal influences, viral oncogens, or certain kinds of drugs are the causative factors. Approximately one-third of the lesion occurs after trauma. Poor oral hygiene may be precipitating factor in many of these patients. Regezi JA et al <sup>[7]</sup> concluded that PG represents an exuberant connective tissue proliferation to a known stimulus or injury like calculus or foreign material within the gingival crevice. Some factors such as inducible nitric oxide synthase, vascular endothelial growth factor or connective tissue growth factor are known to be involved in angiogenesis & rapid growth of Pyogenic granuloma.

Pyogenic granuloma develops in up to 5% of pregnancies hence the term “pregnancy tumor” and “granuloma gravidarum” are often used. There is no justification for retaining the term “pregnancy tumor.”<sup>8</sup> They are in agreement with Kerr <sup>[9]</sup> that lesions of an identical clinical and histologic nature are seen in men as well as in nonpregnant women.

Although excisional surgery is the choice for treatment but other treatment modalities like Nd: YAG laser, flash lamp pulse dye laser, cryosurgery, injection of absolute ethanol, sodium tetradecyl sulfate (STS) sclerotherapy, intralesional corticosteroid injections have also been reported.

After excision, recurrence occurs in up to 16% of the lesions so in some cases re excision is necessary <sup>[10]</sup>. Recurrence is believed to result from incomplete excision, failure to remove etiologic factors, or re-injury of the area.

In conclusion, although pyogenic granuloma is a non-specific growth in the oral cavity, proper diagnosis, prevention, management & treatment of the lesion are very important. Pyogenic granuloma arises in response to various stimuli such as low grade local irritation, sex hormones, traumatic injury or certain kind of drugs. Its occurrence in old aged female is rare. As in this patient there were abundant local deposits, so removal of causative irritants was the major line of treatment followed by conventional excisional surgery. Follow up of the patient is needed because pyogenic granuloma exhibits a tendency to recur.

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