



## Pyogenic Granuloma – A Case Report

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### Abstract

Pyogenic granuloma (also known as a “Pregnancy tumor”) is a primarily disease which appears in the mouth as an overgrowth of tissue due to physical trauma or hormonal factors. The condition is frequently associated with periodontal pain and in some cases interfering with mastication and creating esthetic problems. It is often seen more commonly in young adults, gingiva is most common site, this case report is of male patient and elaborates the clinical and histopathologic features with treatment of the pyogenic granuloma.

**Keywords:** Pyogenic Granuloma; Gingiva; Trauma

### Introduction

Pyogenic granuloma in oral cavity is said to be non-neoplastic in nature [1,2]. In English literature it was described by Hullihen [3] and Hartzell [4] called “pyogenic granuloma” or “granuloma pyogenicum. The different nomenclatures are “Granulation tissue-type hemangioma”, “Granuloma gravidarum”, “Lobular capillary hemangioma”, “Pregnancy tumor” and “Tumor of pregnancy” and “Granuloma telangiectacticum” because of evidence of vascularity seen in histological diagnosis Cawson., *et al* [5].

The etiology for lesion by local irritation, chronic irritation, minor trauma, hormonal factors, drugs and hormonal imbalance [6]. Young females get predominantly more suffering age second decade of life, possibly because of caused by hormonal changes and vascular effect [7]. Mostly seen on the gingiva, lips, tongue, buccal mucosa, palate and floor of the mouth [8]. It present as with stalk or without stalk with a smooth or ulcerated surface. It may be deep red or reddish-purple in colour.

It is difficult to diagnose or confused with parulis, fibroma, peripheral giant cell granuloma, peripheral fibroma, peripheral ossifying fibroma, leiomyoma, hemangioendothelioma, hemangiopericytoma, Kaposi’s sarcoma, pregnancy tumor, and post-extraction granuloma. Final diagnosis of pyogenic granuloma is made only after by histo-pathological investigation. Management of pyogenic

granuloma is surgical excision, curettage of the adjacent teeth and root surfaces. Because pyogenic granulomas rarely enclose, show more affinity to recur if surgical removal is incomplete [9,10]. Case report discussed case of pyogenic granuloma in a male patient along with histological findings and management.

### Case Report

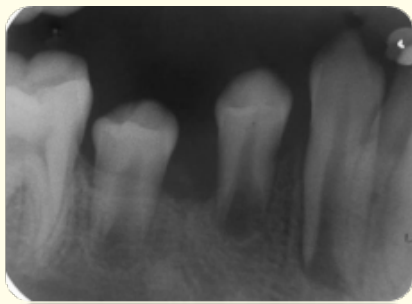
A 13 year old male patient reported to the Department of Oral Medicine and Radiology, Sharad pawar dental college, DMIMS (DU) Sawangi (Meghe) Wardha, India, with a chief complaint of difficulty in mastication due to growth over the gingiva, bleeding from gums during meals and tooth-brushing on the left side since 1 month. History of trauma 1 month before and growth was symptom free, initially a tiny, bright-red nodule was present that bleed profusely which increased to present size.

Dental and Medical history was non-contributory. There was no raise in temperature and no regional lymphadenopathy. An intraoral examination revealed, pedunculated growth from the interdental papilla of the mandibular left posterior region of jaw in 34 35 region covering entire crown of the teeth. The oval-shaped mass was 3.0 cm x 2.0 cm in size, pink in color, smooth (Figure 1). Bleeding on manipulation was noted by bidigital palpation. oral hygiene procedures gets difficult due to presence of overgrowth. Intra-oral periapical radiograph shows an alveolar crestal bone

resorption with 33, 34, 35 region (Figure 2). Pre-operative blood examinations revealed normal values.



**Figure 1:** Soft tissue pedunculated growth in region premolar and molar.



**Figure 2:** IOPA shows alveolar crestal bone resorption with 33 34 35 region.

**Treatment**

Thorough scaling and polishing was done and the lesion was excised. Excision is done under local anesthesia, followed by curettage and through scaling of the involved and adjacent teeth (Figure 3). Patient was recalled after seven days and removal of sutures were done (Figure 4). The specimen was sent for histologic examination (Figure 5).



**Figure 3:** Area showing excision followed by suture.



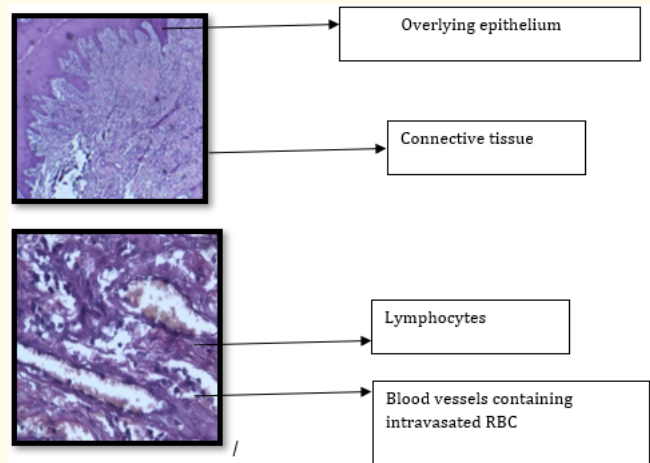
**Figure 4:** Follow-up after surgery.



**Figure 5:** Specimen

**Histological findings**

The epithelium shows area of ulceration and connective tissue was loose and highly vascular with budding endothelial capillaries and dense chronic inflammatory cell infiltrate. Fibroblasts and collagen fibres are interposed and lot of epithelial lined spaces is seen within the connective tissue with presence of patchy distribution of lymphocytes and plasma cells (Figure 6). No presence of atypia.



**Figure 6:** Histopathology

## Discussion

The pyogenic granuloma is a common, response to localized irritation or trauma. Oral pyogenic granuloma show presence of capillary growth within a granulomatous mass rather than the original, but more seen in females in second decade of life due to the increased in the levels of hormones and progesterone estrogen. The mechanism of angiogenesis was guided by Morphogenetic factors in oral pyogenic granulomas in pregnant by Yuan., *et al* [11]. However, Bhaskar and Jacoway [12] questioned as they found lesions both in males as well as females.

As etiology in our case includes calculus, Ainemo., *et al.* [13] discovered that recurrent trauma causes release of various endogenous and angiogenic which contributes and increases vascularity of the lesion.

The gingiva is most common site mainly the maxillary gingiva more than mandibular gingiva. The typical growth of the site involvement is the interdental papilla and increases in size to cover a portion of the adjacent teeth (Figure 1).

Histologically, pyogenic granulomas are classified as the Lobular Capillary Haemangioma (LCH) type and the non- Lobular Capillary Haemangioma type [7].

The biopsy evaluated that main core of the lesion shows angiomatous tissue with cell, inflammatory cell infiltrate in the form of few neutrophils, lymphocytes and plasma cells covered by parakeratinized epithelium (Figure 4) which confirmed the diagnosis of oral pyogenic granuloma of the LCH type as described.

The line of treatment recommended is Excision and biopsy of the lesion [14].

Conservative surgical excision of the lesion is removal of irritants such as plaque, calculus. Excision of the gingival lesions up to the periosteum with through scaling and root planning of adjacent teeth to remove all sources of irritation [1]. Various other treatment modalities are use of Nd: YAG laser, carbon dioxide laser, flash lamp pulse dye laser, cryosurgery, electrodesiccation, sodium tetracycl-sulfate sclerotherapy [7].

Treatment part is very should be done carefully. Control of bleeding by firm compression of the lesion. Blood transfusions can be done in case of severe bleeding from a pregnancy tumor [15,16]. In some cases shrinkage of the lesion after pregnancy may make surgical treatment unnecessary. However, treatment plan should be planned in the second trimester with good follow- up of the case. Incomplete excision or repeated trauma leads to recurrence of these lesions [6]. Thorough follow-up, especially in pyogenic granuloma of the gingiva cases is needed because of its higher recurrence rate Vilmann., *et al* [2].

Our case was followed up for a period of 1 year with subsequent intervals and no recurrence was observed.

## Conclusion

The case report summarize that pyogenic granuloma can be nicely treated with the correct diagnosis and proper treatment planning and guided follow-up of the lesion.

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