

## CASE REPORT

### Pyogenic Granuloma: A Case Report

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#### Abstract

*Pyogenic granuloma is a primarily oral disease which appears in the mouth as an overgrowth of tissue due to 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 name for pyogenic granuloma is misleading because it is not a true granuloma. The growth is typically seen in young adults, with occurrence in the oral cavity, especially the gingiva, this case report describes a pyogenic granuloma in a female patient, discussing the clinical features histopathologic features and the successful management of the lesion.*

**Key words:** Pyogenic Granuloma, Gingiva, Excision

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#### Introduction

Pyogenic Granuloma is a kind of inflammatory hyperplasia found in oral cavity considered to be non neoplastic in nature<sup>1,2</sup>. Hullihen was first to describe the case of pyogenic granuloma in English literature<sup>3</sup>. In 1904, Hartzell gave the current term of “pyogenic granuloma” or “granuloma pyogenicum. Pyogenic granuloma also known as a “Eruptive hemangioma,” “Granulation tissue-type hemangioma,” “Granuloma gravidarum,” “Lobular capillary hemangioma.”<sup>4</sup> Cawson et al, in dermatologic literature have described it as “granuloma telangiectacticum” due to the presence of numerous blood vessels seen in histological sections.<sup>5</sup>

The lesion appears as a result from local irritation, may be exaggerated response to various stimuli such as low grade or chronic irritation, minor trauma, hormonal factors or drugs, occurring in pregnancy and at puberty<sup>6</sup>. The most frequent intraoral site is the gingiva (approximately 75%). It can also occur on the lips, tongue, buccal mucosa, palate and floor of

the mouth. 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.<sup>7</sup> Differential diagnosis of pyogenic granulomas may include parulis, peripheral giant cell granuloma, peripheral ossifying fibroma, hemangioma, peripheral fibroma, leiomyoma, hemangioendothelioma, hemangiopericytoma, bacillary angiomatosis, Kaposi's sarcoma, metastatic tumors, pregnancy tumor, and postextraction granuloma. Final diagnosis of pyogenic granuloma is made by histology of specimen after excisional biopsy.

Corrective intervention of pyogenic granuloma is surgical excision with thorough scaling and curettage of the adjacent teeth and root surfaces. Because pyogenic granulomas are rarely encapsulated, they can recur if surgical removal is incomplete.<sup>8-9</sup> Following case report presents a case of Pyogenic granuloma in a female patient along with its histological findings and mode of treatment.

## Case Report

A 34 year old female patient reported to the Department of Periodontics at AB Shetty Memorial Institute of Dental Sciences, Mangalore, Karnataka with a chief complaint of difficulty in mastication and bleeding from gums during meals and tooth brushing due to swollen gum on the right inner side of lower jaw since 1 month. The patient was asymptomatic since 3 months and initially observed a tiny, bright-red nodule that bled profusely. The lesion then progressively increased to present size. Medical and dental history was non contributory. Patient had no deleterious habits. There was no extra oral swelling present on right side of mandible. The patient was afebrile and without lymphadenopathy. On intraoral examination the lesion was present on the lingual aspects mandibular teeth spreading in the interdental area between 43,44 & 45 , partially covering the crown of 44 , extending till the lingual sulcus as shown in( Fig 1).

**Fig.1: Pre-operative photograph**



The lesion was tumor like, nodular, lobulated, exophytic, manifested as red, erythematous surface with sessile base. The size of the lesion was 5cm in diameter. On palpation the lesion was soft and compressible and bled easily on manipulation. On hard tissue examination it was found that both 44 and 45 were significantly mobile. The oral hygiene status was fair. The presence of lesion made it difficult for the patient to carryout routine oral hygiene procedures leading to deterioration of the oral hygiene and thereby favouring the growth of the lesion. Intra-oral periapical radiograph revealed considerable amount of bone loss, with widening of periodontal ligament with reference to 44 and 45 as shown in (Fig 2). Blood examination revealed normal values.

**Fig.2: Pre-operative radiograph**



### **Treatment**

Oral prophylaxis was completed with root planning in the same area and then the lesion was excised under aseptic conditions. Excision of the lesion was carried out under local anesthesia using a scalpel and blade, followed by curettage and thorough scaling of the involved teeth. Bleeding was controlled using botrocloptical solution. Post-op instructions were given and patient was recalled after 1 week for check-up. After 1 week, on examination it was found that healing was uneventful and there was a significant reduction in mobility of teeth i.e. 44 &45. There was no scar formation and patient was satisfied with the outcome. Post operative photograph as shown in (Fig 4). The excised tissue (Fig- 3) was sent to the Department of Oral Pathology, AB Shetty Memorial Institute of Dental Sciences, Mangalore for histologic examination.

**Figure- 3: Excised Tissue**



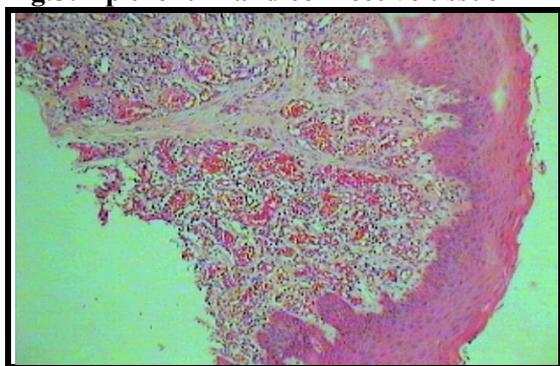
**Fig.4: Post-operative photograph**



### Histological findings

The epithelium shows area of ulceration, the connective tissue was loose and highly vascular with budding endothelial capillaries & dense chronic inflammatory cell infiltrate. The connective tissue showed proliferating fibroblasts and collagen fibres interposed in which can be seen lot of epithelial lined spaces within the connective tissue can be seen patchy distribution of lymphocytes and plasma cells. Also there was no evidence of atypia or malignancy. The clinical and histopathological findings confirmed it to be a case of pyogenic granuloma as shown in (Fig. 5)

**Fig.5: Epithelium and connective tissue**



### Discussion

The pyogenic granuloma is a relatively common, tumor like, exuberant tissue response to localized irritation or trauma which result in an exaggerated localized connective tissue reaction to a minor injury or any underlying irritation. The irritating factor can be 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.<sup>10</sup> Sometimes it may be associated with significant bone loss<sup>11</sup>.

Histologically, pyogenic granulomas are classified as the Lobular Capillary Hemangioma (LCH) type and the non-Lobular Capillary Hemangioma type. The LCH type has proliferating blood vessels organized in lobular aggregates, no specific changes such as oedema, capillary dilation or inflammatory granulation were noted. The non-LCH type consisted of a vascular core resembling granulation tissue with

foci of fibrous tissue.<sup>12</sup> In our case histopathological examination confirms it to be a pyogenic granuloma as proliferating

Management of pyogenic granuloma depends on the severity of symptoms. If the lesion is small, painless and free of bleeding, clinical observation and follow up are advised<sup>13</sup>. Other treatment modalities include laser surgery, electrodesiccation<sup>14,15</sup>. Injection of absolute ethanol, sodium tetradecyl sulfate (sclerotherapy) and corticosteroids have also been tried with successful results in cases with recurrent lesions<sup>16,17</sup>. In the present case excisional biopsy was performed and the lesion was successfully excised. Recurrence occurs in upto 16% of the lesions, which might be due to incomplete excision, failure to remove etiologic factors, or due to reinjury to the area, making follow up necessary<sup>18,19</sup>.

According to Taira JW et al (1992) recurrence rate is 16%, Bhasker and Jacoway (1966)<sup>20</sup> it is 15.8%. Oral Pyogenic Granuloma shows a predilection for the maxillary gingival anterior region accounting for 75% of all cases followed by buccal mucosa, tongue and lips.<sup>20</sup> Various case reports have been published where the lesion was in maxillary gingiva anterior region<sup>21</sup>. But in the present case the lesion was present on the mandibular gingiva in the lingual region which is a rare occurrence. It can be concluded that patient's oral hygiene was poor hence chronic irritation resulting from accumulated plaque and calculus could have contributed to the development of Pyogenic granuloma.

### Conclusion

From the present case report it is concluded that 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.

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