



## Recurrent Pyogenic Granuloma in Maxillary Gingiva- a Case Report

[PP: 05-08]

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### Abstract:

Pyogenic granuloma is an inflammatory hyperplasia seen in oral cavity. It most commonly occurs in second decade of life. It occurs in response to some underlying irritating factor. Clinically, it depicts a sessile or pedunculated, smooth or lobulated growth which bleeds easily on provocation. We present a recurrent multilobulated, pedunculated lesion in maxillary left anterior gingiva of a 42-year old female patient.

**Keywords:** Pyogenic Granuloma, Maxilla, Anterior Gingiva, Recurrence

**ARTICLE INFO** The paper received on: 17/09/2016 Accepted after review on: 15/10/2016 Published on: 03/12/2016

### Cite this article as:

Poonia, M., Ramalingam, K., Salaria, S., Kamboj, S. & Goyal, S. (2016). Recurrent Pyogenic Granuloma In Maxillary Gingiva- A Case Report. *Case Reports in Odontology*. 3(2), 05-08. Retrieved from [www.casereportsinodontology.org](http://www.casereportsinodontology.org)

### 1. Introduction

Pyogenic granuloma was first described by Poncet and Dor in 1879. They named it as 'botryomycosis hominis'. It was named as pyogenic granuloma by Crocker in 1903. [1] The term pyogenic granuloma is a misnomer because it does not contain pus and is not strictly a granuloma. [2]

Pyogenic granuloma (PG) is a non-neoplastic growth in the oral cavity or the skin which is usually considered to be a reactive lesion arising in relation to various stimuli. [3] PG generally is soft, painless, and deep red to reddish purple in colour. [4] The

lesions are painless but bleed easily due to extreme vascularity. [1]

In oral cavity, the most common site is the gingiva (75%), maxilla is more commonly involved than mandible. In rare cases, it may occur extra-gingivally on the lips, tongue, buccal mucosa, and palate. [5] There are two types of PG, namely lobular capillary hemangioma (LCH type) and non-LCH type which exhibit different histological features. Epivatianos et al reported that two types of PG are clinically different and LCH type occurred more frequently (66%) as a sessile lesion, whereas non-LCH type mostly occurred as pedunculated lesions (77%). [2] In this case



report, we present a patient with recurrent pyogenic granuloma in the maxillary anterior gingiva which presented as a multi-lobulated mass.

## **2. Case Report**

A 42-year-old female reported with a chief complaint of a swelling on the left upper front region. The lesion appeared before 1 year as a small growth. She visited a dentist and the growth was surgically removed. But it recurred after 1 month after surgery and since last 7 months, the growth had gradually increased in size to attain the present dimension. Patient's medical history and family history was non-contributory. She brushes her teeth once a day and does not have any other deleterious oral habits.

On intra-oral examination, there was a multi-lobulated mass on the maxillary gingiva in the region of 21, 22 and 23. The gingival overgrowth was approximately 1.5x2 centimetres in size with a peduncle measuring 1 cm in diameter. It was pinkish red in color (Figure 1) and its consistency varied from soft to firm within the mass.

Haematological and radiographical investigations were done. Radiographs did not reveal any bone involvement and blood parameters were within the normal range. The lesion was excised under local anaesthesia and sent for histopathological examination. Complete scaling and root planing was performed, oral hygiene instructions were given and the patient is remaining disease-free on follow-up.

Gross examination showed a whitish-brown, smooth surfaced mass which was firm in consistency (Figure 2). Histopathological examination of hematoxylin and eosin stained sections showed highly vascular connective tissue stroma with diffuse inflammation (Figure 3). Numerous small and large vascular channels lined with plump endothelial cells are seen

and some vessels are engorged with erythrocytes. Connective tissue showed dense collagen fibres with fibroblasts. A mixed inflammatory cell infiltrate consisting of lymphocytes, plasma cells and neutrophils were also evident. The overlying stratified squamous epithelium was variable in thickness with evidence of ulceration and fibrino-purulent membrane in few areas (Figure 4). There was hemorrhage and degeneration in some areas. Correlating the clinical features, histopathological diagnosis was Pyogenic granuloma.

## **3. Discussion**

Hullihen's description in 1844 was most likely the first periapical granuloma reported in English literature.<sup>[6]</sup> The term 'pyogenic granuloma' or 'granuloma pyogenicum' was introduced by Hartzell in 1904.<sup>[7]</sup> Periapical granuloma is regarded as a benign neoplasm by some investigators but it is generally considered to be a reactive tumor like lesion which may arise in response to various stimuli such as local irritation, trauma, hormonal factors or drugs. It is believed to be unrelated to infection.<sup>[2]</sup>

Intraorally, the most common site is gingiva with more predilection in maxilla than mandible<sup>[1]</sup> that is similar in the present case. The lesion in present case report involves the gingival overgrowth in maxillary left canine-premolar region. The sites of involvement other than gingiva are lips, tongue and buccal mucosa.<sup>[3]</sup>

The younger lesions are red in colour whereas with maturity they become more pink and fibrous due to decrease in vascularity.<sup>[5]</sup> In the present case, the colour was pinkish red indicating a mature lesion.

Females are reported to be more susceptible than males due to the hormonal changes that occur during puberty, pregnancy and menopause.<sup>[8]</sup> A 42-year-old female is involved in our case.



There are different ways to treat PG. Conventional approach is to perform a conservative surgical excision and removal of irritation factors <sup>[1]</sup>. Nowadays other methods are also used like curettage, CO<sub>2</sub> laser, Nd: YAG laser, pulsed dye laser, sodium tetradecyl sulphate sclerotherapy and corticosteroid injections. <sup>[9,2]</sup> In case of a gingival lesion, excision should be extended to the periosteum and adjacent teeth in order to avoid recurrence. <sup>[1]</sup> In our case, scaling and root planing was done and the lesion was excised and sent for histopathological evaluation.

Histologically, the PG is characterized by vascular proliferation, which may take the form of rather solid sheets of endothelial cells with little evidence of canalization or of numerous small vessels and large, dilated, thin-walled vascular spaces. Both patterns may coexist in different parts of the same lesion. The vascular element is supported by a delicate and often oedematous cellular fibrous stroma <sup>[10]</sup>. Our histopathological findings were similar to that reported in literature.

Recurrence may occur due to inadequate removal, failure to remove the underlying cause and re- injury. Gingival lesions show higher recurrence rate as compared to other sites. <sup>[2]</sup> The lesion had recurred in the same site within a month after previous surgical removal. It may be attributed to incomplete removal and persistence of the causative factors.

#### **4. Conclusion**

Thus, we present a recurrent case of pyogenic granuloma in the maxillary anterior region occurring in a 42-year-old female. Though the term “pyogenic granuloma” is historical, it still holds an important position in the dental literature.

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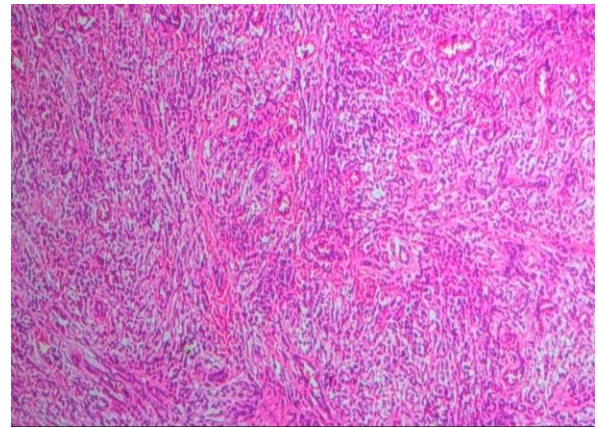
## Figures



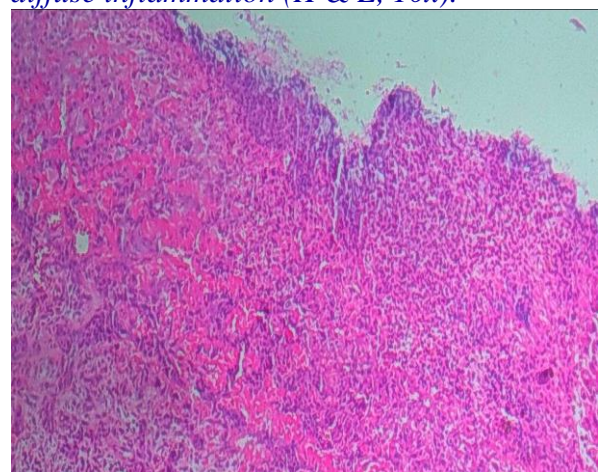
*Figure 1: Clinical picture showing the pinkish-red multilobulated mass on maxillary gingiva.*



*Figure 2: Picture showing the whitish brown mass with smooth surface on gross examination.*



*Figure 3: Photomicrograph showing highly vascular connective tissue stroma with diffuse inflammation (H & E, 10x).*



*Figure 4: Photomicrograph showing the ulceration of surface epithelium and presence of fibrino-purulent membrane (H & E, 10x).*