Pyogenic granuloma – A Case Report
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Abstract
Pyogenic granuloma is a relatively common mucocutaneous lesion seen in the oral cavity, as a response to some underlying irritating factor. Clinically oral pyogenic granuloma is seen as a smooth exophytic lesion with usually haemorrhagic base. This paper presents a case of pyogenic granuloma managed by surgical intervention.

Key Words: Benign lesions, Hyperplasia, Pyogenic Granuloma, Granuloma

Introduction
Pyogenic granuloma is an inflammatory hyperplasia seen as a response to underlying irritating factor.(1-3) It is now agreed pyogenic granuloma arises as a result of some minor trauma to the tissues. Gingiva is the most common site affected followed by buccal mucosa, tongue and lips.(1) Pyogenic granuloma in general, does not occur when excised along with the base and its causative factors. This paper presents a case of a pyogenic granuloma managed by surgical intervention.

Case Report
A 45 year old lady reported to the department of oral and maxillofacial surgery, College of Dental Surgery, Rau, Indore with a chief complaint of a growth in the upper anterior jaw. Growth had appeared 6 months back and has been slowly growing to attain the present size. Mild intermittent pain was associated with the growth which increased on chewing food. Patient reported difficulty in mastication and was concerned for the compromised aesthetics.

Medical history was negative for any findings and all vitals were within normal limits. Extra oral examination revealed a growth of 3cm x 3cm over the upper anterior teeth extending from right side canine to the opposite side canine region covering the labial surface of all six anterior teeth till the incisal edges. The upper lip was protruded due to the growth causing lip incompetence.

Intra oral examination showed a lesion extending from labial vestibule of both side canines covering the incisal edges of all anterior teeth. The growth was firm on palpation with mild tenderness. Bleeding on provocation was positive. The lesion was attached with a sessile base. Oral hygiene was poor with calculus and stains (Figure 1).

![Preoperative view](image1)

1. Preoperative view, 2. Maxillary occlusal views showing mild bone loss in interdental area of anterior teeth, 3. Specimen, 4. H & E stained section showing well developed epithelial rete ridges deep into the connective tissue. And connective tissue is showing numerous endothelial lined blood vessels. (4X magnification)

Occlusal radiograph showed mild bone loss in relation to all 6 anterior teeth (Figure 2). The need for surgical excision was explained to the patient. A complete surgical excision was done for the lesion along with removal of underlying irritational factors (Figure 3). The excised lesion was sent for histopathological examination. Patient was recalled for a post-operative checkup after 48 hrs. No complaints were reported by the patient. The healing was satisfactory. Patient was kept on a follow up for one year.

Histopathological examination showed stratified squamous epithelium forming rete ridges in the underlying connective tissue. Connective tissue showed numerous small and large endothelium lined channels engorged with blood elements. Mixed moderate inflammatory cell infiltrate was also evident. The histopathological report confirmed the lesion to be pyogenic granuloma (Figure 4).
Discussion

Hullihens description in 1844 was most likely the first pyogenic granuloma reported in the English literature. It was only in 1904 that Hartzell first ever introduced the term pyogenic granuloma. (1) It is now universally agreed that this lesion is formed as a result of exaggerated localized connective tissue reaction to a minor injury or any underlying irritation. (1) This irritating factor can be calculus, 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 pyogenic granuloma. (4, 5) Pyogenic granuloma may occur in all ages but is predominantly seen in second decade of life in young adult females possibly because of vascular effects of female hormones. (6)

According to Vilmann et al., majority of the pyogenic granulomas are found on the marginal gingival with only 15 % of the tumors on the alveolar part. (7) Studies by Zaib RB et al in Singapore populations have also shown the greatest incidence of pyogenic granuloma in the second decade of life. (8)

Clinically pyogenic granuloma is generally seen as a smooth or lobulated exophytic lesion with a pedunculated or a sessile base. Pyogenic granuloma grows in size from few mm to several cm in size but rarely exceed more than 2.5 cm size. Some of the pyogenic granuloma grow rapidly and attain large sizes. (9) In this case its of 3cm X 3cm. It is reported many times pyogenic granulomas cause significant bone loss. (10)

Treatment of pyogenic granuloma involves a complete surgical excision. (1) Recurrence of pyogenic granuloma after excision is a known complication but can be prevented. Recurrence rate for pyogenic granuloma is said to be 16 % of the treated lesions and so re excision of such lesions might be necessary. (1) Various other benign soft tissue lesions need to be differentiated from pyogenic granuloma. Few to name include peripheral giant cell granuloma, pregnancy tumor; conventional granulation tissue etc. (1, 6) Differentiation is done on clinical and histological features which help in adequate treatment and good prognosis.

Conclusion

Pyogenic granuloma is benign in nature and usually do not attain unusually large size. Considering these characteristics, pyogenic granuloma can be adequately treated with correct diagnosis and proper treatment. A careful management of the lesion also helps prevent the recurrence of this benign lesion.

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References


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