CASE REPORT

Giant pyogenic granuloma causing articulation defect and dysphagia
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Abstract
Pyogenic granuloma (PG) is a benign inflammatory lesion that may present as a tumor-like growth. It commonly occurs over the gingiva. Other sites involved in the oral cavity are lips, tongue, and buccal mucosa. These lesions are generally <2.5 cm and are not bothersome to patients due to their painless nature. Herein, we report an elderly female presented to us with a sizeable intraoral mass associated with difficulty in articulation and mastication. On examination, we saw an enormous tumor-like growth arising from the gingiva. A diagnosis of PG was made based on histopathology. Contrast-enhanced computed tomographic scan was done to see bone involvement and to delineate the extent of the disease. Complete surgical resection of the mass was done with primary closure. PG may resemble malignancy and should always be kept as a differential in large tumor-like intraoral mass cases.

Keywords: Benign intraoral lesion, gingival, inflammatory hyperplasia, pyogenic granuloma

Introduction
Pyogenic granuloma PG is reactive hyperplasia of connective tissue in response to local irritants or trauma.[1] It is a misnomer as there is no pus formation and it is not a granuloma histologically. Hullihen first described it in 1844, and the term was coined by Hartzell in 1904.[2] The usual sites in the oral cavity are the gingiva, lips, tongue, and buccal mucosa. It presents as an exophytic growth, which is generally asymptomatic.[4] It is usually <2.5 cm in size.[5] We report a giant PG, which has rarely been reported in the literature.

Case Report
A 45-year-old female presented to ENT OPD with the chief complaint of intraoral mass for 4 months, gradually increasing in size. It was associated with difficulty in chewing and swallowing due to impaired tongue movement. It was also associated with difficulty in articulation. The outsiders could not comprehend her conversation, while family members had become accustomed to her speech. It led to her social outcast. There was a history of spontaneous expulsion of teeth but there was no associated history of trauma. On examination, we observed an exophytic pedunculated growth of size approx 8 cm × 4 cm arising from the lower alveolar arch [Figure 1]. It was pinkish-red in color with an irregular and nodular surface. The mass was non-tender on probing and bled on slight manipulation.

The patient’s orodental hygiene was poor. Neck examination did not reveal any enlarged nodes. Speech analysis showed that she could not pronounce words such as s, sh, ch, and j. An incisional biopsy was taken. Histopathological examination revealed highly vascular loose collagenous connective tissue with moderate cellularity and haphazardly arranged collagen fibers. Blood vessels of various shapes and sizes were observed with budding capillaries and endothelial cells. There was moderate infiltration of mixed inflammatory cells such as neutrophils, lymphocytes, and histiocytes. These features were suggestive of PG [Figure 2]. A contrast-enhanced computed tomography (CECT) scan was done to see bone involvement and to delineate the extent of the disease. The lesion was causing partial erosion of the mandibular body, including the lower alveolar arch [Figure 3]. Complete surgical resection with curettage was done through an intraoral approach [Figure 4]. Primary closure was achieved. Histology confirmed it to be a PG. Analgesics and antibiotics were prescribed for a week, and the patient was advised to maintain good oral hygiene. Her swallowing and speech functions returned to normal and are asymptomatic at 6 months follow-up [Figure 5].

Discussion
PG is a non-neoplastic soft tissue lesion. Bhaskar and Jacoway, in their study, observed that oral PG comprised about 1.85%
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It is predominantly seen in the 2nd decade, while our patient was in the 4th decade. There is slightly more propensity toward females, probably due to increased hormones, as seen in our patient. It presents as a smooth or lobulated exophytic mass which may be pedunculated or sessile. The color may range from pink to red, and slough may be present in some cases. It is mostly painless and asymptomatic. Our patient was not bothered by the growth until it reached a significant size and started interfering with mastication and articulation. The large intraoral mass interfered with forwarding tongue thrust and protrusion to produce sibilants such as /s/, /ʃ/, /ʃh/, /χ/, and /j/.

In some cases, a large PG may be associated with underlying bone resorption. We observed similar features in this case. It may bleed on touch as it is composed of hyperplastic granulation tissue. The oral cavity’s most common location is the gingival (75%), followed by the tongue, lips, and buccal mucosa. It may be secondary to trauma, hormonal factors,
local irritants,\textsuperscript{[11]} or certain drugs.\textsuperscript{[12]} The underlying fibrovascular connective tissue becomes hyperplastic and there is a proliferation of granulation tissue, which leads to the formation of a PG.\textsuperscript{[1]} The lesion size might vary from millimeters to several centimeters, but it does not exceed more than 2.5 cm in length.\textsuperscript{[10]} Giant PG of size 8 cm × 4 cm has not been reported in the literature.

The differential diagnosis includes peripheral giant cell granuloma, metastatic cancer, peripheral ossifying granuloma, hyperplastic gingival inflammation, Kaposi sarcoma, angiosarcoma, and non-Hodgkin’s lymphoma.\textsuperscript{[13]}

Histopathology is the gold standard for diagnosis. Microscopic examination shows highly proliferative granulation tissue. The surface epithelium may be intact or may show foci of ulcerations or even exhibit hyperkeratosis. It overlies a mass of dense connective tissue composed of significant amounts of mature collagen.\textsuperscript{[14]}

The surgeon can order a CECT scan in cases of large sizes to look for bone resorption.\textsuperscript{[15]} In our case also there was resorption of the mandible [Figure 2]. It does not have any malignant potential, but recurrence rates are as high as 16%. Incomplete excision of tumor or failure to remove the etiological factors may be responsible for such high recurrence rates.

Various treatment modalities include Nd: Yttrium-aluminum-garnet lasers, carbon dioxide lasers, flash lamps, pulse dye laser, cryosurgery, sodium tetradecyl sulfate sclerotherapy, and use of intralesional steroids.\textsuperscript{[15]}

Complete surgical excision is the treatment of choice, and it should be done till the underlying periosteum to ensure total clearance of disease.\textsuperscript{[15]} The attending physician should confirm complete clearance of causative irritants, and the patient must be instructed to maintain good orodontal hygiene. Regular follow-up is essential in all cases.

**Conclusion**

PG is commonly seen in the gingiva. However, our patient presented with a giant PG with articulation defects due to its size which is not a common presentation of PG. It must be kept as a differential when dealing with large tumor-like intraoral lesions. Surgical excision until the periosteum is the standard treatment of choice. Despite complete excision, recurrence is not uncommon; hence, a regular follow-up is mandatory.

**Acknowledgments**

None.

**Ethical Approval**

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

**References**