GRANULOMA PYOGENICUM - A SESSILE PEDUNCULATED OVERGROWTH: A CASE REPORT
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ABSTRACT
Granuloma pyogenicum is a relatively common benign form of mucocutaneous lesion. It usually arises in response to various stimuli such as low-grade local irritation, traumatic injury, hormonal factors, or certain kinds of drugs hyperplasia of connective tissue in response to local irritants. Gingiva is the most common site affected followed by buccal mucosa, tongue and lips. This case report describes a case of Granuloma pyogenicum present since 3 months in a 25-year-old female patient where the lesion was managed by surgical intervention.

KEY WORDS: Granuloma pyogenicum, gingiva, oral cavity, excision

INTRODUCTION
Granuloma pyogenicum or pyogenic granuloma is a relatively common benign mucocutaneous lesion. Pyogenic granuloma (PG) is the second most common lesion found in the oral cavity. It is a benign hyper reactive inflammatory lesion that shows a fast growing focal reactive growth of fibrovascular or granulation tissue with extensive endothelial proliferation. Clinically it appears as a tumor like growth, but it is considered as a non-neoplastic growth. PG was first reported in the English literature by Hullihen in 1844 and the term Pyogenic granuloma was introduced by Hartzell in 1904. The term pyogenic granuloma is a misnomer as it is neither pus producing, nor represents granulomatous inflammation. Clinically; PG is a soft, smooth or lobulated exophytic lesion, which manifests as a small, red erythematous papule on a pedunculated or sessile base. PG has a higher incidence in women (1.5:1 ratio) and occurs most frequently in the second and third decades of life. Diagnosis of the lesion is mainly by histopathological examination and treatment of Pyogenic granuloma consists of surgical excision along with elimination of irritating local factors where the recurrence rates may vary from 0% to 16%. Authors report a case of pyogenic granuloma managed by surgical intervention.

CASE REPORT
A female patient aged 25 years reported to department of Periodontology, with a chief complaint of swelling in the lower right back tooth region of mouth, which bleed frequently and interfered with eating. She noticed the soft tissue growth in the past 3 months prior to her visit. This growth was initially small and grew gradually in size. Her medical and dental history was non-contributory. Extraoral examination did not reveal any facial asymmetry. No abnormality was detected in lymph nodes and temporomandibular joint. Intraoral clinical examination revealed a roughly oval bright red exophytic sessile lesion on the gingiva that measured about 1x0.5cm, located buccally to right mandibular second premolar (45) and first molar (46). [Figure 1] The lesion involved the interdental papilla and attached gingiva. The lesion was soft in consistency with bleeding on probing. The oral hygiene status was fair and width of attached gingiva was adequate. Blood investigations showed normal levels and radiographic examination revealed no bone loss in the lesion area [Figure 2]. Based on the findings a provisional diagnosis of Pyogenic granuloma was made. Differential diagnosis included irritational fibroma, giant cell granuloma, peripheral ossifying granuloma was made. The treatment comprised of oral prophylaxis and an excisional biopsy under local anesthesia along with histopathologic evaluation.

Surgical excision of the lesion up to and including the mucoperiosteum was carried out under local anesthesia using a scalpel and blade [Figure 3]. Profused bleeding was experienced during excision because of excessive proliferation of capillaries. It was controlled by pressure pack. The excised tissue was sent to the Department of Oral Pathology for histological examination [Figure 4]. The case was followed for 6 months and no signs of recurrences or any discomfort was seen [Figure 5]. The histopathological examination revealed ulcerated parakeratinized stratified squamous epithelium with pseudo membrane on the surface. The connective tissue stroma shows loose bundle of collagen fibers, numerous dilated & engorged blood vessels, chronic inflammatory cells and areas of extravasated RBCs [Figure 6]. These findings were suggestive of pyogenic granuloma.

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DISCUSSION

Pyogenic granuloma is a benign hyper reactive inflammatory lesion that shows a fast growing focal reactive growth of fibrovascular or granulation tissue with extensive endothelial proliferation. The name is somewhat a misnomer in that the lesion does not contain pus, as the word "pyogenic" suggests and is not strictly speaking a granuloma. Pyogenic granulomas are commonly seen on the gingiva, with interdental papillae being the most common site in 70% of the cases where they are presumably caused by calculus or foreign material within the gingival crevice\textsuperscript{10}. Hormonal changes of puberty and pregnancy may modify the gingival reparative response to injury, producing what was once called a "pregnancy tumor". Clinically development of the lesion is slow, asymptomatic and painless but it may grow rapidly. The surface is characteristically ulcerated and friable which may be covered by a yellow, fibrinous membrane and its colour ranges from pink to red to purple, depending on age of the lesion. Young PG’s are highly vascular in appearance because of increased number of capillaries. Gingival irritation & inflammation that result from the poor oral hygiene, dental plaque & calculus or over-hanging restoration may be precipitating factors in many cases. Epivationos et al. (2005) based on the histopathological examination reported that there are two kinds of PG namely lobular capillary hemangioma (LCH type) and non-LCHtype.\textsuperscript{11} Although pyogenic granuloma can be diagnosed clinically with considerable accuracy, radiographic and histopathological investigations are required for confirming the diagnosis and thus differentiating it from other similar lesions and planning the treatment. Histopathologically, PG shows a high vascularity with extreme endothelial proliferations and numerous vascular spaces that resemble granulation tissue.\textsuperscript{12} Polymorphs, as well as chronic inflammatory cells are consistently present thought the oedematous stroma with microabscess formation. The natural history of the lesion follows three distinct phases. In cellular phase, the lobules are compact and cellular with little lumen formation. In the capillary phase, the lobules become highly vascular with abundant intraluminal red blood cells. In the involutary phase, there is a tendency for intra & perilobular fibrosis with increased venular differentiation.\textsuperscript{13} Biopsy findings have an important role and are definitive in establishing the diagnosis.\textsuperscript{14} Differential diagnosis of PG includes Peripheral giant cell granuloma, Peripheral ossifying fibroma,\textsuperscript{15} Metastatic cancer,\textsuperscript{14} Hemangioma, Pregnancy tumor,\textsuperscript{16} Bacillary angiomatosis,\textsuperscript{17} Non-Hodkin’s lymphoma.\textsuperscript{18} Management of pyogenic granuloma depends on the severity of symptoms. Various treatment protocols have also been suggested such as: surgical excision using gingivectomy or flapsurgery procedures, Nd: YAG and CO2 Laser can also be used for surgical excision with minimal bleeding,\textsuperscript{19} cryosurgery,\textsuperscript{20} sodium tetradecylsulfate sclerotherapy,\textsuperscript{21} intralesional corticosteroid injections.\textsuperscript{22}
After excision, recurrence occurs in up to 16% of the lesions. Recurrence is believed to result from incomplete excision, failure to remove etiologic factors or re-injury of the area. Lesions involving the gingiva shows much high recurrence rate than lesions from other oral mucosal sites.  

**CONCLUSION**

When a gingival overgrowth is found, it is important to formulate an appropriate diagnosis of the condition, which would help in management of the patient. Histopathological findings have an important role and are definitive in establishing a diagnosis. Removal of the local irritating factors and surgical excision are most important treatment modalities. Regular follow up is also very essential to avoid recurrence of the lesion.

**REFERENCES**

17. Pilch BZ. Head and neck surgical pathology. Philadelphia; Lippincott Williams & Wilkins: 2001; 389-90.