Volume : 5 | Issue : 5 | May 2016 • ISSN No 2277 - 8179 | IF : 3.508 | IC Value : 69.48

Research Paper

Oral Pyogenic Granuloma: A Case Report With Brief Review of Literature

Medical Science

KEYWORDS : Pyogenic granuloma, gingiva, trauma

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ABSTRACT

Pyogenic granuloma also called as 'Granuloma Pyogenicum'. It is known to be a reactive inflammatory process in which there is an exuberant fibro-vascular proliferation of the connective tissue, secondary to some low grade chronic irritant. It is usually seen in young adults. Most common affected site is gingiva. This case report describes a pyogenic granuloma in a 38 year old female patient, discussing its clinical features and also the successful management of the lesion.

Introduction:

Pyogenic granuloma, also called as granuloma pyogenicum was coined by Hartzell in 1904. It is a reactive inflammatory hyperplasia which occurs in response to various stimuli such as low grade local irritation and traumatic injury, hormonal factors, or certain kinds of drugs.[1]Among all reactive lesions, the incidence of the pyogenic granuloma is 19.76-25 %. Although it may occur in all age groups, higher frequency of pyogenic granuloma is seen in young women in the second decade of life because of the hormonal changes in this period. Females are more affected than males.[2] Most common affected site is gingiva, but may also occur on the lips, tongue, and palate. These lesions usually present as smooth or lobulated red-to-purple masses that may be either pedunculated or sessile and vary in size from a few millimeters to several centimeters and are painless. As lesion mature, the vascularity decreases and the clinical appearance are more collagenous and pink. Surgical excision is the treatment of choice.[3]

Case report:

A 38-year-old female patient reported to our department with a complaint of growth in the lower left back region of the mouth since one month. Growth was initially small but gradually increased in size to present dimension within 15 days. Since last 15 days, there was no increase in the size of growth. Growth was also associated with pain and bleeding during eating and brushing. Pain was intermittent with moderate intensity and non-radiating. Patient's medical was noncontributory. The patient was afebrile and without lymphadenopathy. General physical examination revealed that the patient was moderately built and well nourished.

Intra oral examination revealed single sessile growth present in the mandibular left quadrant in relation to second molar on lingual, buccal and distal side extending till the retromolar area measuring approx. 1.5 x 1 cm in size. Growth appeared pink in color and margins were well defined. On palpation, the growth was soft to firm in consistency and non-tender, with bleeding on probing [Figure 1]. Patient also had poor oral hygiene and root stump i.r.t 36, 37. Based on history and clinical examination, provisional diagnosis of Pyogenic Granuloma was given. Complete hemogram showed all blood counts within normal limits. Patient was advised extraction of root stump 36, 37 along with excision of growth and sample was sent for histopathological evaluation. H and E stained section under microscopic examination showed stratified squamous epithelium overlying a fibro vascular stroma. Stroma showed increased fibrovascularity with numerous dilated blood vessels, and budding capillaries with endothelial cell proliferation. Mixed inflammatory infiltrates comprised neutrophils, plasma cells, and lymphocytes were also evident. The above features were suggestive of Pyogenic Granuloma [Figure 2]. The patient was recalled after a week and the excised area was evaluated for healing. Healing was satisfactory after one week [Figure 3].Patient was followed up for three months with no sign of recurrence.

Discussion:

Oral Pyogenic granuloma is the most common gingival tumor, accounting for 75% of all cases. The lips, tongue, and buccal mucosa are the next most common site. Lesions are more common on the maxillary gingiva than the mandibular gingiva; anterior areas are more frequently affected than posterior areas.[2] As for the traumatic etiology of pyogenic granuloma, according to Shafer et al, oral pyogenic granuloma arises as a result of infection by either staphylococci or streptococci.[4] While some investigators regard pyogenic granuloma as a benign neoplasm, it is usually considered to be a reactive tumor like lesion which arises in response to various stimuli such as chronic low-grade local irritation, traumatic injury, hormonal factors, and certain kind of drugs such as cyclosporine. Hormonal changes of puberty and pregnancy may modify the gingival reparative response to injury.[2]

The lesions typically occur in the second decade of life.[4] Clinically, Pyogenic Granuloma is a smooth or lobulated exophytic lesion manifesting as small, red erythematous papules on a pedunculated or sometimes sessile base, which is usually hemorrhagic and compressible. The size varies in diameter from few millimetres to several centimeters, rarely exceeding 2.5 cm. 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 color ranges from pink to red to purple, depending on age of the lesion.[2] The consistency of the tumor gets firmer both with aging of the lesion and elimination of its etiological factors.[3] Young pyogenic granulomas are highly vascular in appearance, because they are composed of predominantly hyperplastic granulation tissue in which capillaries are prominent. Thus, minor trauma to the lesion may cause considerable bleeding, due to its pronounced vascularity whereas older lesions tend to become more collagenised and pink.[4]

Differential diagnosis of pyogenic granuloma includes peripheral giant cell granuloma, peripheral ossifying fibroma, metastic cancer, hemangioma, basillary angiomatosis, angiosarcoma and non Hodgkin's lymphoma.[4] Although pyogenic granuloma can be diagnosed clinically with considerable accuracy, radiographic and histopathological investigations aid in confirming the diagnosis and treatment.[3]

Pyogenic granuloma is a benign lesion; therefore surgical excision is the treatment of choice.[2] Other treatment modalities

Volume : 5 | Issue : 5 | May 2016 • ISSN No 2277 - 8179 | IF : 3.508 | IC Value : 69.48

include laser surgery, electrodessication. Injection of absolute ethanol, sodium tetradecyl sulfate (sclerotherapy) and corticosteroids have also been tried with successful results in cases with recurrent lesions. Recurrence occurs in upto 16% of the lesions, which might be due to incomplete excision or failure to remove etiologic factors.[3]

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.

Figure: 1 Single sessile growth present in mandibular left quadrant in relation to second molar on lingual, buccal and distal side extending till the retro molar area measuring approx.1.5 x 1cm

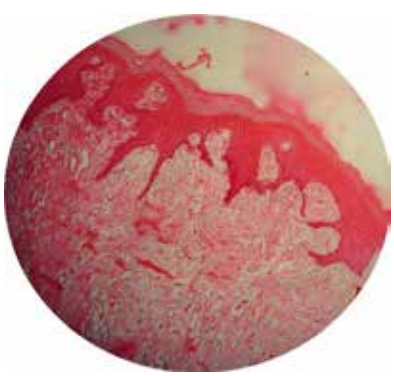

Figure 2: Histopathology of Pyogenic Granuloma

Figure 3: Postoperative photograph showing complete healing of socket

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