CASE REPORT

Pyogenic Granuloma: A Case Report and Review

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Abstract

Pyogenic granuloma is one of the inflammatory hyperplasias seen in the oral cavity. It predominantly occurs in second decade of life in young females, possible because of the vascular effects of female hormones. Clinically oral pyogenic granuloma is a smooth or lobulated Exophytic lesion pedunculated or sometimes sessile base, which is usually hemorrhagic. Although excisional surgery is the treatment of choice for it. The purpose of the article to describe a case of Pyogenic Granuloma


Key words: Pyogenic granuloma

Introduction

Hullihen’s in 1844 first reported pyogenic granuloma in English literature but the term “Pyogenic granuloma” or “granuloma pyogenicum” was introduced by Hartzell. It is a distinctive clinical entity originating as a response of the tissue to nonspecific infections. It is a tumor like growth that is considered an exaggerated conditioned response to minor trauma. It is well-circumscribed elevated, pedunculated or sessile lesion. Pyogenic granuloma which often arises in 2nd or 3rd trimester of pregnancy is termed as “Pregnancy Tumor”. Although this lesion is reported in all age groups, the peak incidence is reported in third decade of life affecting women more often than men.

Case Report

A 38 year old female patient reported to us with chief complaint of swollen gum in the upper anterior region since last two months. Patient had a poor oral hygiene and brushes her teeth with toothbrush and toothpaste in a horizontal stroke.

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Intra-oral examination revealed a solitary sessile growth on gingiva measuring about 1x .5 cm in size, extending from 21 (upper left central incisor) to 63 (upper left deciduous canine & covering gingiva & palatal surfaces of the teeth. Overlying mucosa was ulcerated & reddish in color. On palpation, the growth was firm, non-tender, easily bleeding. Radiographic examination revealed no bony changes. Phase I therapy was performed. The lesion was excised under local anesthesia and sent for histopathological examination. The excision area was covered with periodontal pack and evaluated after one week for healing, healing was satisfactory. Histopathological examination revealed a stratified Squamous epithelium showing hyperplasia with increased keratinization with proliferating Rete pegs & underlying connective tissue shows lots of proliferating blood vessels, formation of vascular spaces in fibrocellular stroma infiltrated with inflammatory cells like lymphocytes, plasma cells & macrophages, confirming the clinical diagnosis of Pyogenic granuloma.

Discussion

The term “Pyogenic Granuloma” is a misnamed entity. It is neither infectious nor granulomatous. The lesion is common on gingiva, followed by lips, tongue & buccal mucosa. Surface is smooth lobulated, ulcerated & shows tendency for bleeding. Consistency is soft.

Peripheral Giant cell granuloma, irritational fibroma, lymphoma, capillary hemangiomas & metastatic tumor should be considered in differential diagnosis. The etiology of Pyogenic Granuloma is unknown. It was believed to be a botryomycotic infection but later suggested that it is caused by infection of streptococci & staphylococci. But now it is believed that low
grade trauma or irritation, hormonal influences, viral oncogens, or certain kinds of drugs are the causative factors. Approximately one-third of the lesion occurs after trauma. Poor oral hygiene may be precipitating factor in many of these patients.

Some factors such as inducible nitric oxide synthase, vascular endothelial growth factor or connective tissue growth factor are known to be involved in angiogenesis & rapid growth of Pyogenic granuloma. Additionally certain drugs like cyclosporine have an important role in genesis of Pyogenic granuloma.

In 1980, Davies et al. found inclusion bodies in the fibroblast suggestive of disordered protein metabolism. They suggested that Pyogenic granuloma constitute a lesion produced by primitive organizer resulting from gene depression in papillary fibroblast perhaps as a result of c-type virus infection. Oral Pyogenic granuloma is the most common gingival tumor shows a striking predilection for the gingival accounting for 75% of all cases, where they are presumably caused by calculus or foreign material within the gingival crevice. Lesions are slightly more common in maxilla than in mandible; anterior gingiva is more affected than the posterior gingiva. Also the lesion is more common on facial aspect than on lingual or palatal. According to Vilmann et al. majority of the pyogenic granuloma are found on the marginal gingiva with only 15% on the alveolar part. The size varies in diameter from a few millimeters to several centimeters. Rarely does pyogenic granuloma exceed 2.5 cm in size & usually reaches its full size within weeks or months. Young Pyogenic granulomas are highly vascular in appearance because they are composed predominantly of hyperplastic granulation tissue in which capillaries are prominent. Whereas older lesions tends to become more collagenized & pink. Involvement of bone in Pyogenic granuloma is rare.

Conclusion

Although Pyogenic granuloma is a non-specific growth in the oral cavity, proper diagnosis, prevention, management & treatment of the lesion are very important. Pyogenic granuloma arises in response to various stimuli such as low grade local irritation, sex hormones, traumatic injury or certain kind of drugs. As in this patient as she had abundant local deposit with anterior traumatic bite, so removal of causative irritants is the major line of treatment. Excisional surgery is the treatment of choice. If completely excised recurrence is not so frequent. It should be emphasized about Pyogenic granuloma is the effect of sex hormone imbalance during pregnancy which is one of the most common causes of Pyogenic granuloma.

References

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