

CASE REPORT

Recurrent Episodes of Oral Pyogenic Granuloma at Different Site in an 8-year-old Girl: An Unusual Presentation

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ABSTRACT

Pyogenic granuloma is one of the benign vascular neoplasms seen in the first and second decade of life, with a female predilection. Pyogenic granuloma presents as a small reddish exophytic lesion, gingiva being the commonest site. This report presents a case of recurrent episodes of pyogenic granuloma at a different site at different time intervals in an 8-year-old girl child which was found to be an unusual presentation, and it highlights the importance of early diagnosis and management of the pyogenic granuloma to avoid the discomfort.

Keywords: Oral pyogenic granuloma, Reactive hyperplasia, Recurrent episodes.

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INTRODUCTION

Oral pyogenic granuloma is a common tumor-like growth, non-neoplastic in nature resulting from inflammatory hyperplasia of mucosa or the skin. Pyogenic granuloma is also known as pregnancy tumor or granuloma gravidarum, is initially thought to be caused by pyogenic organisms, but unrelated to infections.¹

It predominantly occurs in the first and second decade of life in young females, with the male to female ratio of 1:99, and size of lesion varies in diameter from few millimeters to several centimeters, but rarely exceeds 2.5 cm.² Pyogenic granuloma occurs due to the response to various stimuli such as chronic localized irritation, trauma, hormones, and drugs. Its occurrence in the oral cavity of the children is uncommon, and poor oral hygiene is considered to be the precipitating factor.³ It is more common in females, implicating the possible effects of female sex hormones such as estrogen and progesterone on blood vessels, with its peak incidence occurs in the second and fifth decade of life.⁴

Gingiva is the most commonly affected site followed by the tongue, hard palate, lip, buccal mucosa, and the floor of the mouth. Characteristically, it presents as a small reddish-pink soft tissue swelling, the size ranging from few millimeters to few centimeters. The mass may have a pedunculated or sessile base which is usually non-tender, but it bleeds spontaneously on touch.⁵

This report describes an unusual case of an oral pyogenic granuloma in a female child in different sites at 6 months' time interval.

CASE DESCRIPTION

An 8-year-old female child reported as outpatient to the Department of Pediatric and Preventive Dentistry with the chief complaint of small growth in the oral cavity pertaining to upper right back tooth region which bleeds when interfered with eating and brushing.

She noticed the growth two months back which started as the size of peas and gradually increased to reach the present size. Her medical history and family history were non-contributory. No abnormality detected on extraoral examination and intraoral examination revealed a single growing exophytic lesion which was oval-shaped pedunculated with stalk, non-tender, reddish in color

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with smooth surface, which was measuring approximately 1.5 × 1 cm in upper right back tooth region, and it was attached to the alveolar mucosa in-between the right primary molars with no signs of lymph node enlargement (Figs 1 and 2).



Fig. 1: Intraoral view of soft tissue growth in relation to attached gingiva of upper right back tooth region



Fig. 2: Pedunculated lesion with base



Fig. 3: Surgical site after excision of the lesion

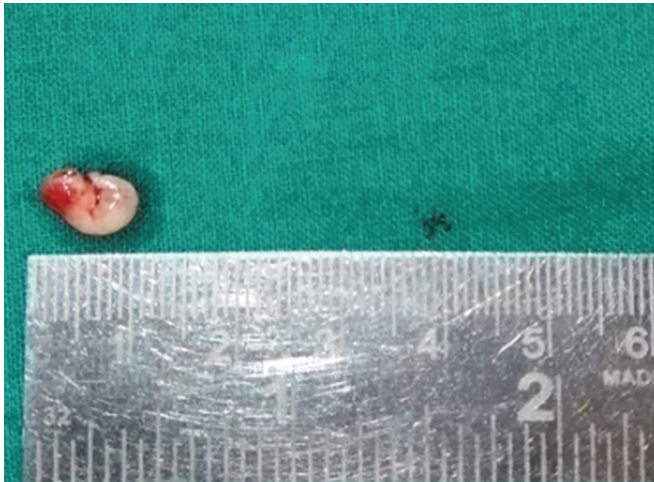


Fig. 4: Excised lesion in relation to lower left back tooth region

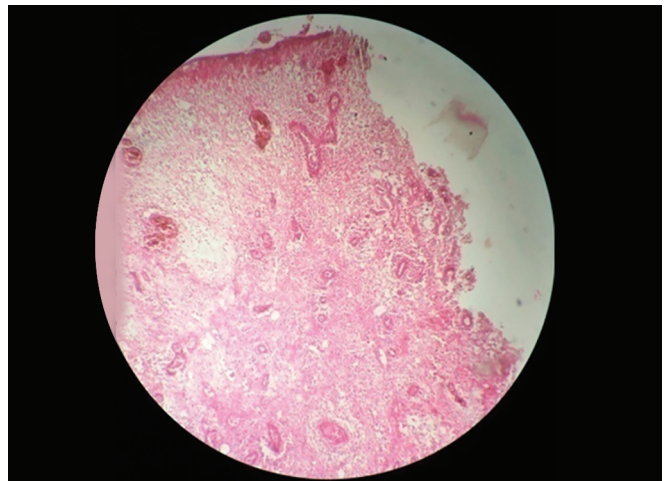


Fig. 5: Histopathological section of pyogenic granuloma, with dense inflammatory infiltrate



Fig. 6: Intraoral view of soft tissue growth in lower left back tooth region

These findings were confirmed by palpation of the lesion. Furthermore, there were no caries and absence of mobility of the involved teeth.

Oral hygiene status was fair. The blood picture showed that all the values are within the normal level. Based on the history and intraoral findings, provisionally it was diagnosed as pyogenic granuloma. Surgical excision of the lesion was planned and the excised sample was sent to the Department of Oral and Maxillofacial

Pathology for histopathological analysis, where it is confirmed as pyogenic granuloma (Figs 3 to 5).

The patient returned only after 6 months with a recurrent swelling in the lower left back tooth region. On intraoral examination, a similar exophytic growth measuring approximately 2 × 1.5 cm, pedunculated, oval in shape, with a smooth surface, reddish in color which bleeds on probing, and it covered the buccal surfaces of the second primary molar and first permanent molar. Furthermore, there was a mild proximal caries with absence of mobility of the involved teeth. IOPA was taken to rule out if the swelling was related to caries, and finally the provisional diagnosis was pyogenic granuloma (Fig. 6).

Surgical excision was planned at the new site and the excised tissue was sent for histopathological analysis to the Department of Oral and Maxillofacial Pathology (Figs 7 to 9). A diagnosis of pyogenic granuloma was confirmed.

Differential Diagnosis

A possible list of differential diagnoses was as follows, irritational fibroma, peripheral ossifying fibroma, peripheral giant cell granuloma, soft tissue abscess, hemangioma, localized juvenile



Fig. 7: Surgical site after excision of the lesion

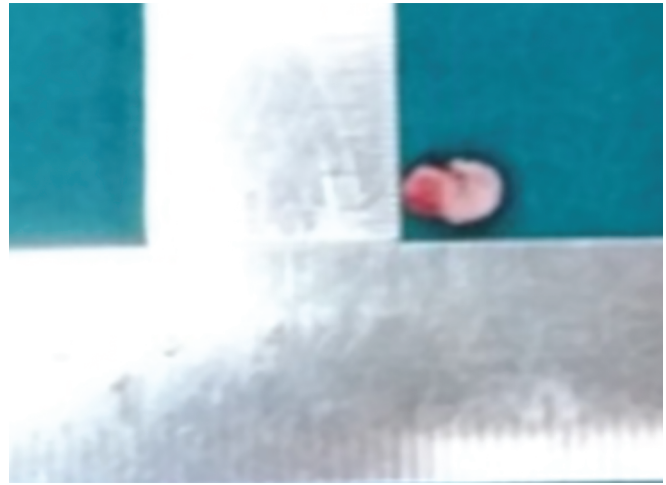


Fig. 8: Excised lesion in relation to lower left back tooth region

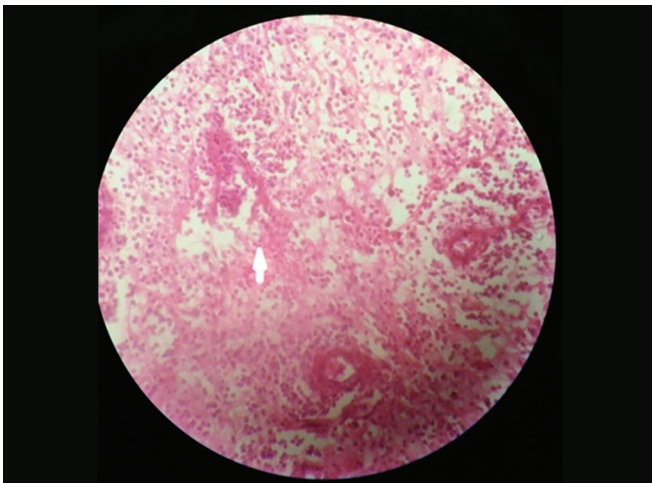


Fig. 9: Histopathological section of pyogenic granuloma, with dense inflammatory infiltrate

spongiotic gingival hyperplasia, pregnancy tumor, and post-extraction granuloma.

Histopathological Impression

The given H&E stained section of both the samples showed stratified squamous epithelium which is hyperplastic and hyperkeratinized in nature, the underlying connective tissue, blood vessels proliferation noticed, associated with plenty of inflammatory cells infiltration noticed, the H/P consistent with the clinical diagnosis of pyogenic granuloma.

DISCUSSION

Pyogenic granuloma is an inflammatory hyperplasia that occurs commonly in the oral cavity and less frequently in the digestive tract, sometimes it affects the skin. It is also otherwise called a pregnancy tumor and reactive tumor.⁶

The incidence of pyogenic granuloma has been reported as 26.8–32%, frequently occurring in the first and second decade of life.⁷ The predisposing factors are frequent injury to the gingival crevice, vigorous toothbrushing and occlusal interference, prolonged use of medications like cyclosporine, and hormonal

imbalance. In children the etiology of reactive hyperplastic lesions are foreign body irritation, poor oral hygiene, and hormonal influence.

In this case tooth brush trauma was considered as the probable etiology at the first episode, later due to its frequent occurrence at multiple sites hormonal influence was considered as an etiological factor. Pyogenic granuloma usually exhibits a rapid growth which will cause occlusal interference while eating and brushing, therefore there will be release in endogenous and angiogenic factors leading to the increased blood supply to the affected area and tend to bleed.⁸

It is known that estrogen and progesterone levels will be increased during second decade of life especially in females, therefore they are more prone to occur in pregnant women and young adults rather than children although it can be seen in all age-groups.

Pyogenic granulomas can be differentiated from other lesions like irritational fibroma and peripheral giant cell granuloma histologically, as it shows proliferation of endothelial cells and lack of inflammatory cell, presence of multinucleated giant cells in peripheral giant cell granuloma.⁹ Depending upon the co-operative ability of the child and size of the lesion treatment varies. In the present case, the patient was very co-operative and size of the lesion was small hence, surgical excision was done and it is also a recommended treatment in the literature.

Cryosurgery, flash lamp pulsed dye laser, sclera therapy, excision by Nd:YAG laser, injection of corticosteroid or ethanol are other treatment modalities available for excision of pyogenic granuloma.¹⁰

CONCLUSION

Benign lesions like pyogenic granuloma are threatening to the patients as it grows rapidly and its size causing discomfort and pain in children. Since pyogenic granuloma is uncommon in children early diagnosis and prompt treatment are very important to prevent discomfort and further complication as well as to improve the quality of life of children.

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