Case Report

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PYOGENIC GRANULOMA – A RARE CASE REPORT

Dr. Nagarathna PJ*	MDS (Pediatrics and preventive dentistry) Professor and head of department *Corresponding Author
Dr. Hema Suryawanshi	MDS(Oral and maxillofacial pathology) Dean of Chhattisgarh dental college and research institute (Rajnandgaon)
Dr. Nabila Naaz Sheikh	Post graduate student (2nd year) Department of Pediatrics and preventive dentistry.

ABSTRACT **Background:** Pyogenic granuloma (PG) is a benign lesion of vascular origin. It is a common benign growth seen in the skin and oral cavity and has a common tendency to reoccur. Multiple lesions from different nodules commonly seen in skin but very rarely seen in oral cavity.

Aim: To identify the origin of lesion to prevent recurrence and treat accordingly to eliminate the source of infection, etiological factors and recurrence. We report a case of reoccurred pyogenic granuloma of the gingiva on the maxillary posterior region of the teeth which was treated by surgical excision followed by histo-pathological examination of the excised tissue to confirm the diagnosis.

Conclusion: Both Simple excision or laser procedure are good methods but recurrence can be avoided by identifing the nodular emergence/origin and also by eliminating etiological factors.

KEYWORDS : Multiple Lesions, Pyogenic Granuloma, Recurrence, Warner–wilson Jones Syndrome.

INTRODUCTION

Pyogenic granuloma (PG) is a benign lesion of vascular origin seen in the skin and oral cavity. [1] Pyogenic Granuloma is also known as: eruptive haemangioma, granulation tissue-type haemangioma, granuloma gravidarum, lobular capillary haemangioma, pregnancy tumour or tumour of pregnancy[1,4] Pyogenic granuloma is one of the inflammatory hyperplasias seen in the oral cavity as a tissue response to irritation, trauma or hormonal imbalances (puberty, menstruation or pregnancy)[1,4]. The first case was reported in 1844 by Hullihcn and the term "pyogenic granuloma" or "granuloma pyogenicum"was coined only in 1904 by Hartzcll. It can occur at any age; It predominantly occurs in females in second decade of life. Often singular but sometimes multiple, PG develops most frequently from an ulceration, trauma, small wound, chronic irritation or rough patches following dental care.[1,4]

Recurrent pyogenic granuloma with satellite lesions and its pathogenesis is known as warner wilson jones syndrome[5,6]. Multiple satellite lesions is very rare, it do commonly occur as local recurrences in cutaeneous regions but in oral cavity it is very rare. The treatment of choice for these lesions is wide surgical resection to reduce the risk of recurrence preferably with a cold blade to ensure a reliable anatomopathological examination[7].

CASE REPORT

A 11 year old female presented in department of pedodontics and preventive dentistry, with chief complaint of gingival swelling in the right buccal and palatal aspect of maxillary premolar region since 15 days. Patient gives the history of the similar gingival growth only on the buccal aspect of maxillary premolar region 2 months back which appeared after the exfoliation of the deciduous tooth for which she underwent laser excision in a private clinic. Patient presented with small sessile growth which was bleeding profusely on provocation and interfered in mastication, gradually increased to attain the present size of 2.5 x 2cm buccally and 1.5 x 1.5 cm palatally (approx) (figure 1,2). There was no contributory past medical history. No cervical and submandibular lymph node enlargement was noticed. However the lesion on the buccal aspect of gingiva, extending to the occlusal surface whereas palatal legion arised from the interdental gingiva in relation to maxillary premolars. On inspection, the surface of growth was lobulated, red in colour, oral hygiene was poor and the involved teeth was covered with calculus. On Palpatory findings the growth was soft and fragile in consistency, hence provisional diagnosis of pyogenic granuloma in relation to maxillary premolars was made. Complete hemogram of the patient was suggested as we planned for excisional biopsy (figure 3). Peripheral giant cell granuloma and peripheral ossifying fibroma were considered in the differential diagnosis. Peripheral giant cell granuloma is more affected in mandible, non ulcerated and is more bluish-purple colored as compared with bright red color of pyogenic granuloma.[1] Peripheral ossifying fibroma has a minimal vascular component unlike pyogenic granuloma[1]. Complete haemogram showed low haemoglobin level. Histopathological report revealed parakeratinized stratified sqamous epithelium of variable thickness overlying the connective tissue stroma which consists of haphazardly arranged collagen fiber, fibroblast and dense chronic inflammatory cell infilterate chiefly comprising of plasma cells, lymphocytes and numerous small blood vessels and budding capillaries with engorged RBCs. For this case, Oral prophylaxis was done to eliminate the precipitating factor, extraction of retained deciduous right second molar for elimination of source of infection and excision of growth with 1 mm of normal gingival margin was done(figure 3). Post excision period was uneventful, follow up at one month and six months interval showed no evidence of recurrence.

DISCUSSION

Pyogenic granulomas are benign, exophytic vascular tumors first described by Poncet and Dor in 1897. Although exact pathogenesis is not identified, trauma, hormonal influences, and inflammatory and infectious agents have all been hypothesized as probable factors in causation.[8] The incidence of pyogenic granuloma has been depicted as 26.8%–32% of all reactive lesions with peak incidence of age ranging from 11 to 40 years. Females are found to be more frequently affected with a predilection of 3:2 over males due to the increased levels of circulating hormones estrogen and progesterone in the second decade [9]. Pyogenic granulomas can be of few millimetres to several centimetres in size and commonly involve maxillary labial gingival. [10] It shows a predilection of 75% of the cases for gingiva.[11] As this case presented with common prediction of gender, site of occurrence but presented with unusal appearance as two different lesions, as such multiple lesions are very rare. The literature says the causes for such multiple lesions is presence of multiple deep satellite nodules that encircle the site of original lesions (Warner–Wilson Jones syndrome).[12] The pathogenesis of satellite lesions is not well known but has been suggested that after surgical excision or treatment of the primary lesion, angiogenic factors may promote the appearance of new lesions. It has also been observed following irritation of the primary lesion.[13] Repeated trauma due to brushing, stimulant such as calculus or foreign material, immunosuppressive drugs such as cyclosporine are some of the other precipitating factors for pyogenic granulomas.[11] In present case, calculus, retained deciduous tooth and variation in hormonal level can be considered as one of the precipitating factors to the primary lesion. During excision of primary lesion, deep satellite nodules was not taken into consideration hence, recurrence was noted.

Clinically, pyogenic granuloma presents as red-purple ulcerated nodule in the interdental gingiva , lips, tongue, or buccal mucosa. They often undergo rapid growth initially and then remain static in size. The young lesions are highly vascular, and bleed easily, whereas older lesions tend to be more collagenized and pink in appearance.[14] Biopsy is recommended for any persistent or recurrent oral pyogenic granulomas as it rarely resembles various benign and malignant pathologies.[15] Other reactive gingival lesions are fibrous epulis, peripheral giant cell granuloma, fibroepithelial polyp, peripheral ossifying fibroma, and giant cell fibroma.[16] The treatment of choice for these lesions is wide surgical resection with margins of 1 mm from its periphery. Aetiological factors are eliminated in order to reduce the risk of recurrence.[1] Diode or CO2 laser resection, nitrogen cryosurgery, intralesional injection of corticosteroids or sclerosing agents are some of the other treatment modalitites.[1-3] We performed excisional biopsy under local anaesthesia, followed by an anatomopathological examination to confirm the diagnosis.

The rate of reccurance can be up to 16% in gingival resection.[1,2] This recurrence can be due to incomplete resection or failing to eliminate the aetiological factors. Progression was favourable in the reported case and no recurrence was noted during the maintenance sessions.

CONCLUSION:

For recurrent lesions, simple excisional procedure has proved to be a good method because it is safe, less technique sensitive. It allows complete removal of the lesion and good prognosis is seen for recurrent cases as compared to lasers and other treatment modalities which are technique sensitive. Recurrent oral lesions should be wisely treated with the aim of removing etiological factors, elimination of source of infection and maintaining good oral hygiene.

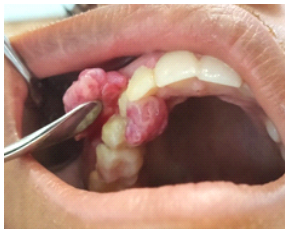

Figure: 1 Occlusal view of the lesion

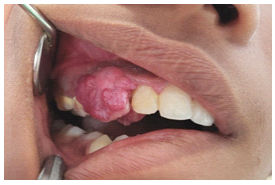

Figure: 2 Buccal view of the lesion

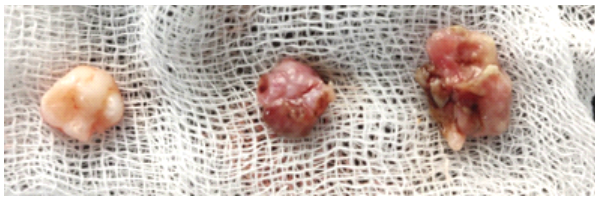

Figure: 3 Extracted retained right deciduous molar and excised lesions.

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