Pyogenic Granuloma : A Case Report

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Abstract

Pyogenic granuloma is one of the inflammatory hyperplasias seen in the oral cavity. The term is a misnomer because the lesion is unrelated to infection and in reality arises in response to various stimuli such as low-grade local irritation, traumatic injury, or hormonal factors. It predominantly occurs in the second decade of life in younger females, possible because of the vascular effects of female hormones. Majority of these lesions are asymotomatic and patients have discomfort during function. A case of pyogenic granuloma is presented, histopathologic examination was done for diagnosis of the lesion and surgical excision was done along with removal of causative irritants.

Introduction

Fibrous growths of the oral soft tissues are fairly common and include a diverse group of reactive and neoplastic conditions[1]. Pyogenic granuloma (PG) is a localized granulation tissue of the oral cavity or skin that is considered to be non-neoplastic in nature. The first report of PG in English literature was described by Hullihen in 1844, but the term "pyogenic granuloma" or "granuloma pyogenicum" was introduced by Hartzell in 1904[2]. Although excisional surgery is the treatment of choice for it, some other treatment protocols such as ND:YAG Laser, flashed lamp pulse dye laser, cryosurgery, intralesional injection of ethanol or corticosteroid and sodium tetradecyl sulphate sclerotherapy have been proposed. Oral PG, which in reality is the most common gingival tumor, shows a striking predilection for gingiva accounting for 75% of all cases, where they are presumably caused calculus or foreign material within the gingival crevice [3]. Here, we report a case of gingival swelling with not much clinical symptoms except a visible swelling. The treatment done was surgical excision which showed remarkable results.

Case Report - 1

A 28 year old female patient had visited our institute RKDF Dental College & Research centre, Bhopal with a complaint of swelling in her gums. There was no pain. The swelling was noticed 2 months prior and the size has increased slightly. Intraoral examination revealed a growth on the gingiva in the maxillary region, approximately 2 x 4 cm in size. The growth was reddish in colour with smooth surface, lobulated and pedunculated base and there was bleeding on slightest provocation. The growth extended from distal aspect of maxillary central incisor to mesial aspect of lateral incisor on the right side [Figure 1]. There was moderate amount of calculus seen. Past medical and dental history were irrelevant. Radiological investigation showed no bony involvement. Initial scaling was done and the patient was recalled after a week. After a week the inflammation was reduced and the growth was slightly fibrous. After carrying out the necessary investigations, a surgery was planned. Under local anesthesia, using # 15 blade, incision was given at the base of the pedunculated pyogenic mass. It was carefully excised from the underlying tissue and bleeding was controlled with pressure pack [Figure 2]. No sutures were given. The tissue was sent for histopathological examination. The Hematoxylin & eosin stained section showed ulcerated stratified squamous epithelium with an underlying fibrovascular stroma. The stroma showed large number of budding capillaries, plump fibroblasts. The connective tissue stroma also showed areas of dense chronic inflammatory cells. The patient was recalled the next day and the area was healing normally. The Histopathology report confirmed that it was an inflammatory lesion. A follow-up was done after 2 weeks and healing was complete [Figure 3]. The diagnosis of PG was made on the basis of histopathology and clinical picture.

Discussion

PG is a very common oral lesion. PG is a benign nonneoplastic mucocutaneous lesion, with the term "pyogenic" being used erroneously since this condition does not produce purulent secretion and is not related to infection. PG is also known as pregnancy granuloma or pregnancy tumor when occurring in pregnant women, or as vascular epulis, benign vascular tumor and hemangiomatous granuloma. PG is manifested as a sessile or pedunculated, resilient, erythematous, exophytic and painful papule or nodule with a smooth or lobulated surface that bleeds easily[4]. While some investigators regard PG as a benign neoplasm, it is usually considered to be a reactive tumor-like lesion which arises in response to various stimuli such as a chronic low-grade local irritation, traumatic injury, hormonal factors or certain kinds of drugs [5]. Poor oral hygiene may be a contributing factor. PG is partly or completely covered by parakeratotic or non-keratinized stratified squamous epithelium. Major bulk of the lesion is formed by a lobulated or non-lobulated mass of angiomatous tissue. Usually, lobulated lesions are composed of solid endothelial proliferation or proliferation of capillary sized blood vessels[6]. The surface may be ulcerated. A study has shown that the lobulated type has more proliferative activity and can behave more aggressively[7]. PG does not necessarily always require invasive excisional treatment; although surgery is successful in minimizing the recurrence of lesion, it often results in functional and esthetic impairment of the soft tissue morphology[8]. In our case the patient was leaving for abroad, hence no compromise was planned. Moreover, it needs to be emphasized here that for any kind of treatment to be successful, proper instructions regarding maintenance of good oral hygiene need to be followed by the patient. Laser therapy using continuous and pulsed CO2 and Nd-YAG systems have been undertaken for a variety of intraoral soft tissue lesions such as hemangioma, lymphangioma, squamous papilloma, lichen planus, focal melanosis and PG, since they carry the advantage of being less invasive and sutureless procedures that produce only minimal postoperative pain[9]. A follow-up of the patient showed no recurrence.

Conclusion

Proper management of PG is dependent upon various factors such as proper treatment, proper maintenance and a regular follow-up. Apart from this newer treatment modalities need to be explored on the basis of current treatment trends. Although PG is not a very dangerous lesion, it certainly alerts the patient to seek expert opinion due to its clinical appearance.

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Legends

1. Fig. 1: Intraoral exmanination showing a swelling in the maxillary anterior region.
2. Fig. 2 : Operative site after excision of lesion.
3. Fig. 3 : A 2 week follow-up done which shows complete healing.


Fig. 1


Fig. 2


Fig. 3