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Case Report

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Idiopathic Huge Pyogenic Granuloma covering Palate

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Abstract

Pyogenic granuloma (PG) is benign reactive hyperplasia of connective tissue in response to traumatic injury, low grade local irritation, hormonal changes and drugs like cyclosporine, carbamazepine and oral contraceptives. Higher frequency of PG is observed in second and third decade of life, especially among women. Here we report a case of unusually large oral PG in a 28 years male, with unique clinical presentation as it was seen covering the whole palate, atypical size measuring 6cm as compared to normal size of PG that rarely exceeds 2.5 cm and distinct shape due to constant tongue pressure, no bleeding on maneuver and was firm in consistency. This case report discusses the clinical features that distinguish this lesion from other similar oral mucosal lesions as these atypical presentation can be rather confusing and can lead to misdiagnosis.

Keywords: Pyogenic Granuloma; Peripheral Giant Cell Granuloma; Peripheral Ossifying Fibroma

List of abbreviations: PG: Pyogenic granuloma; HIV: Human immunodeficiency virus

Introduction

In 1844, Hullihens most likely described the first pyogenic granuloma (PG) in English literature but Haztzell in 1904 introduced the term pyogenic granuloma [1]. PG also known as granuloma pyogenicum is a non-neoplastic, inflammatory hyperplastic mucocutaneous lesion, but is a misnomer as it is neither infectious nor granulomatous in nature. Clinically represented as a smooth, lobulated, sessile or pedunculated, exophytic mass, exhibiting pink to reddish color and bleeds on slight maneuver, commonly affecting gingiva followed by buccal mucosa, tongue and lips. Most common treatment is surgical excision and eradication of local irritants [1].

Case history

A 28 year old male patient reported to the outpatient department with the chief complaint of painless mass in palate region since 1 year. The mass was of size of pinhead when it was first noticed 1 year back in his upper right back palate region and gradually progressed to attain the present size. Also gives history of difficulty in breathing, closing the mouth, chewing, swallowing the food and unpleasant odour from mouth. No history of pain and discharge from the mass. Patient was unaware of any initial trauma. His past medical, dental and drug history was non-contributory and extraoral examination was non-significant.

Intraoral examination revealed a well-defined, solitary, exophytic growth originating from palatal marginal gingiva of 16, crossing the midline, covering the whole palatal vault and measuring about 6cm× 4 cm. Growth was seen extending anteroposteriorly from 1 cm posterior to palatal marginal gingiva of 11, 21 upto 1 cm posterior to junction of hard and soft palate with smooth surface and pale pink in colour with blackish pigmentation seen on middle half of lesion. No surface ulceration and erythema was seen (Figure 1). On palpation growth was pedunculated (Figure 2), firm in consistency, non-tender, non- compressible, non- reducible, non- pulsatile, non- fluctuant with no blanching on pressure seen and no evidence of bleeding or any discharge. Oral hygiene was poor with presence of supra-gingival calculus and stains. Teeth associated with it did not show any mobility.

Based on the clinical findings, the case was provisionally diagnosed as peripheral ossifying fibroma. Differential diagnosis of peripheral giant cell granuloma, pyogenic granuloma and traumatic fibroma was considered. Radiographically, there were no visible abnormalities, calcification and the alveolar bone in the region of the growth appeared normal (Figure 3). Hemogram of the patient was within the normal limits. The growth was surgically excised under local anesthesia and sent for histopathologic evaluation (Figure 4). Histopathological examination revealed parakeratinized stratified squamous epithelium with pseudoepitheliomatous hyperplasia. Connective tissue showed moderate inflammatory infiltrate with increase of endothelial lined blood capillaries suggestive of healing pyogenic granuloma (Figure 5). The follow up was done and revealed nothing significant.

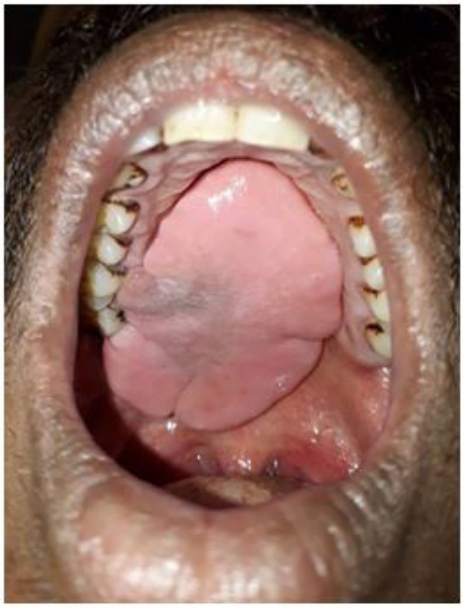

Figure 1: No surface ulceration and erythema

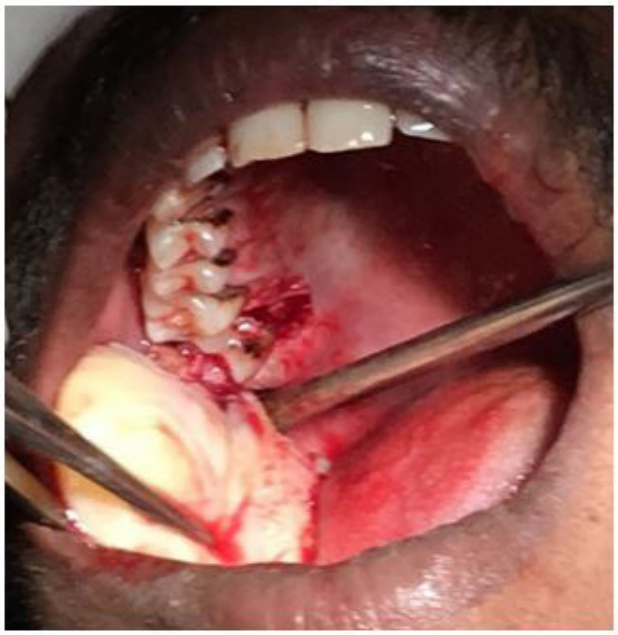

Figure 2: On palpation growth was pedunculated

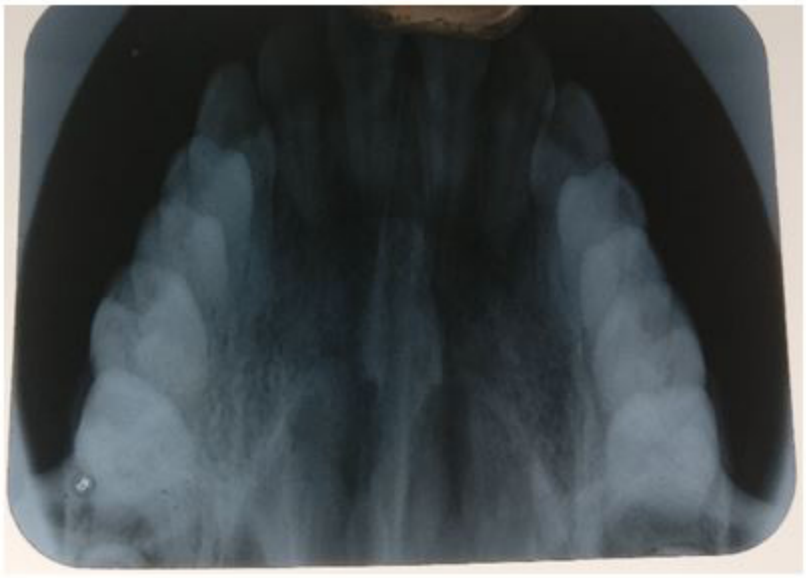

Figure 3: No visible abnormalities, calcification and the alveolar bone in the region of the growth appeared normal

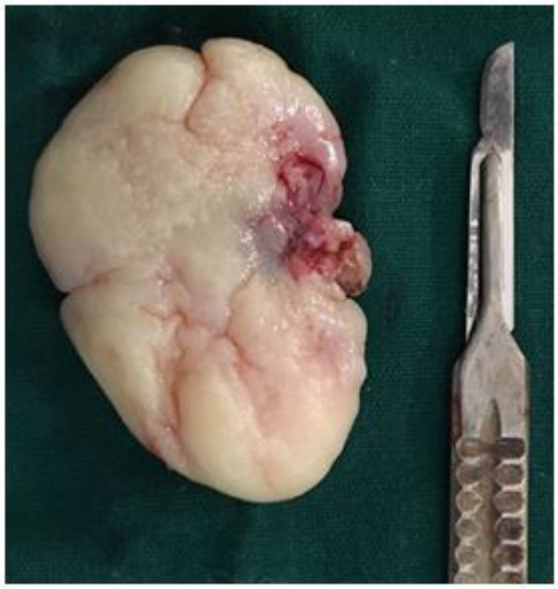

Figure 4: The growth was surgically excised under local anesthesia and sent for histopathologic evaluation

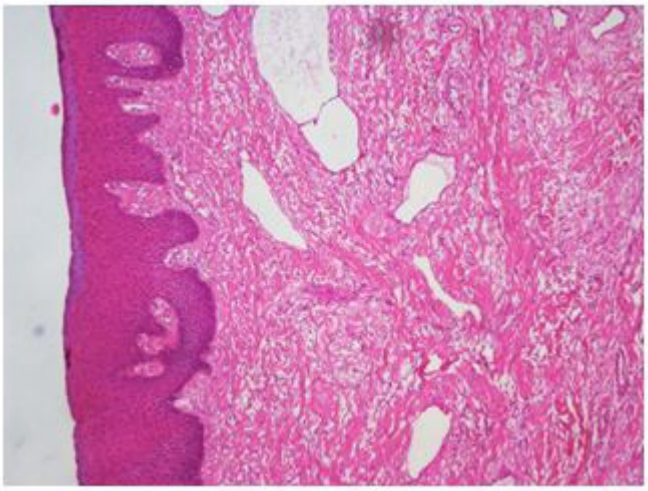

Figure 5: Connective tissue showed moderate inflammatory infiltrate with increase of endothelial lined blood capillaries suggestive of healing pyogenic granuloma

Discussion

PG is the most common gingival benign tumor for 75% of all cases [2] with interdental papillae being the most common site in 70% of the cases and are more common in the maxillary anterior region [3]. The incidence of PG among other reactive lesions has been described as between 26.8% and 32%. Occurrence of lesion is reported in almost all age groups, but most commonly between 11 and 40 years with the peak incidence in 30 years. Hormones progesterone and estrogen leads to faster growth of the lesion so females, especially pregnant and oral contraceptive users are affected more than male with the female: male ratio of 3:2 [4].

Development of PG is considered to be caused due to localized connective tissue reaction to minor injury or irritation as a result of sharp margins of restoration, calculus, sharp cusps and incisal edges causes inflammation as a result of mechanical trauma. Further micro-ulceration occurs on already inflamed mucosa due to continuous irritation, thus exposing the underlying connective tissue to low virulent microorganism in the oral cavity. This produces an overstated hyperplastic and vascular response in the connective tissue resulting in the formation of PG [5].

Newly formed PGs are highly vascular due to dominance of hyperplastic granulation tissue in which capillaries are very prominent, and bleeds easily as compared to chronic lesions which appears more collagenized and pink. Rarely PG may cause significant bone loss [6].

Differential diagnosis of PG includes peripheral giant cell granuloma which is an exophytic lesion that is more likely to be seen in gingiva and cause bone resorption with presence of multinucleated giant cells and lack of an infectious source. Pregnancy tumor occurs in females especially during pregnancy due to hormonal changes with no clinical or histological differences from pyogenic granuloma. Peripheral ossifying fibroma or peripheral odontogenic fibroma arise solely on the gingiva, it shows less vascular component as compared to a pyogenic granuloma. Hemangioma shows similar feature of proliferating blood vessels and bleeds easily but differs histologically as it shows endothelial cell proliferation without acute inflammatory cell infiltrate in contrast to pyogenic granuloma. Metastatic tumors resemble reactive or hyperplastic lesions but differs from pyogenic granuloma as their occurrence is rare, mostly affects the attached gingiva microscopically they are similar to the tumor of origin, that is distant from the metastatic lesion seen in the oral cavity. Kaposi's sarcoma of AIDS demonstrate vascular clefts, proliferation of dysplastic spindle cells, intracellular hyaline globules and extravasated erythrocytes which is not seen in pyogenic granuloma [7].

Definitive diagnosis of PG is based on histopathological examination of the biopsied specimen which shows highly vascular proliferation that resembles like granulomatous tissue with surface ulceration and presence of fibrinopurulent membrane. A mixed population of inflammatory cell infiltrate comprising of neutrophils, plasma cells, and lymphocyte is evident [4].

PG is a benign lesion, complete surgical excision using cryosurgery, laser surgery, and electrodessication along with elimination of etiological irritants is the treatment of choice [8]. Chances of Recurrence is up to 16% due to incomplete removal of the mass and causative factors along with re-injury to the affected area [9].

Conclusion

Pyogenic Granuloma is a non-neoplastic growth in the oral cavity so proper diagnosis, prevention, management and treatment of the lesion are very important and should be taken into consideration while diagnosing huge intraoral lesions.

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Conflict of Interest

No conflict of interest

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