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Intra Oral Multiple Pyogenic Granuloma- A Rare Case Report

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ABSTRACT

Pyogenic Granuloma (PG) is a type of inflammatory hyperplastic lesion seen in the oral cavity. The etiology for this lesion is hyperplasia in response to various stimulus corresponding to low grade local irritation like interdental calculus, traumatic injury or hormonal factors. It commonly occurs in young females as a result of the vascular effects of sex hormones. Intra orally it is mostly solitary and occurs commonly in the gingiva. This case report describes a rare presentation of multiple pyogenic granulomas of the maxillary and mandibular gingivae in a 48 year old female patient.

KEYWORDS Pyogenic granuloma, inflammatory hyperplasia.

INTRODUCTION:

Pyogenic Granuloma (PG) is a type of inflammatory Hyperplasia (IH). The terminology IH is used to describe a large range of nodular growths of the oral mucosa that histologically represent inflamed fibrous and granulation tissues [1, 2]. IH includes fibrous inflammatory hyperplasias (clinical fibroma, epulis fissuratua and pulp polyp), palatal papillary hyperplasia, giant cell granuloma, pregnanacy epulis and pyogenic granuloma [1]. PG is non- neoplastic and is a common growth present in the oral cavity or skin [3,4]. The first PG was most likely to be reported by Hullihen[5] in 1884 . In 1904, Hartzell [6] introduced the term ' pyogenic granuloma' or ' granuloma pyogenicum'. In the oral cavity it is most likely found in the keratinized tissue [7]. It is common in the skin but except in the oral cavity, it is extremely uncommon in the Gastro Intestinal Tract [8].

Various etiologies are attributed to the formation of PG. These include trauma, hormonal influence, viral oncogenes, microscopic AV malformations and growth factors [9].The two types of PG are Lobular Capillary Hemangioma (LCH) and non Lobular Capillary Hemangioma (non LCH) which differ histologically [10]. The different forms of PG include Pregnancy epulides, Disseminated PG, Intravenous PG and PG arising secondary to systemic medication. The disseminated form is rare. Few cases reported [11] relate mainly to skin lesions or genital mucosa rather than oral mucosa. The primary cause of localized lesions is tissue trauma following burns [12]. Multiple and disseminated are two separate terms nad should not be used interchangeably. Dissemiantion connotes dispension of the lesions around different sites in the whole body, whilst multiple refers to several lesions at the same anatomical location. According to Torres et al [13] , multiple PG are extremely rare.

This paper describes a case of 48 year old female patient who presented with multiple growths in the maxillary and mandibular gingivae, provisionally diagnosed as multiple pyogenic granuloma.

CASE REPORT:

A 48 year old female patient came for consultation with a complaint of bleeding from the gums while brushing. History revealed that the patient has type 2 Diabetes Mellitus for the past 15 years for which the patient was under oral hypoglycemics. She was not under any other medication. She also had Chronic Renal Failure , secondary to Diabetes Mellitus for which she was under hemodialysis thrice a week for 6 months. Patient had attained her menopause. General physical and extra oral examination revealed no abnormalities. Latest complete serum investigtation report taken a month before showed no abnormal values. She is not under calcium channel blockers or calcineurin inhibitors which could lead to gingival hyperplasia. Intra oral examination revealed poor oral hygiene with gingival inflammation, generalized gingival recession and mobility of the teeth. In addition patient also had multiple sesssile growths in the interdental region in relation to the maxillary incisors, bilaterally in the premolar region, in the mandibular anteriors and in the canine region (figure 1,2,3 & 4). They varied approximately about 5 x 4 mm in size, irregularly shaped with a rough surface and appeared erythematous. Upon palpation, the inspectory findings were confirmed , it was non-tender, firm in consistency and bled upon probing. There were no radiographic changes. A clinical diagnosis of multiple pyogenic granuloma was made.



Figure :1 Multiple PG on the maxillary gingiva



Figure 2: PG on the mandibular gingiva



Figure: 3 Multiple PG in the maxillary



Figure 4: PG in the maxillary labial gingiva premolar region

DISCUSSION:

Solitary Pyogenic Granuloma are common lesions and presents as a red papule or nodule that is prone to inflammation and bleeding. It rarely presents as a multiple lesion. The etiology is unknown but a lot of causes have been postulated. These include ; hormonal influences (as these occur more frequently in pregnancy), chronic low grade irritation, post traumatic injury to the mucosa, viral infection, underlying microscopic AV malformations and drug induced (retinoids or protease inhibitors). The term pyogenic granuloma is a misnomer as it neither contains pus nor is a granuloma. Some drugs such as cyclosporine have a role in the genesis of PG. Four cases of oral PG in Chronic Graft Vs Host Disease patients who were under cyclosporine have been reported by Bachemeyer et al [14]. Shadi Saghafi al [15] in an retrospective analysis of 151 cases of oral pyogenic granauloma reported only one case of PG present in a patient with kidney failure. Fowler et al [8] reported a case of PG associated with Guided Tissue Regeneration. Kanda et al [16] presented a patient who developed PG of the tongue after allogenic Bone Marrow Transplantation done for multiple myeloma. A complex case of multiple pyogenic granulomata was reported in a nine year old boy by Mike et al [17]. Other than this case report, there are no other case reports of multiple oral pyogenic granulomas reported in the English literature. The most probable etiology in the patient reported in our case report was most likely to be chronic low grade irritation to local factors like calculus and plaque. Although PG can occur at all ages, it is more common in the second decade of life in young adult females , possibly due to the vascular effects of sex hormones [2,4,18]. The following facts ; that the patient had attained menopause , no history of drugs that can induce gingival enlargement, serum blood levels were not suggestive of hyperthyroid activity – ruled out other etiologies.

The most common gingival tumour is oral PG with 75 % of the cases showing a strong predilection for the gingiva [19]. The lips, tongue and buccal mucosa are the next common sites [2,4,18]. Clinically, PG is a smooth or lobulated exophytic lesion manifesting as small red erythematous papule on a pedunculated or sessile base, which is usually hemorrhagic and compressible [2]. According to Epivatianos et al [10] , LCH PG occured as a sessile lesion more frequently (66 %) while non LCH PG occurred as pedunculated (77 %). It is asymptomatic, painless and develops slowly. Its colour ranges from pink to red to purple depending upon the chronicity of the lesion. New lesions are highly vascular as they have hyperplastic granulation tissue which are rich in capillaries [4]. So, even minor trauma can cause considerable bleeding. In our case, each of the PG looked similar – it was lobulated, sessile ,asymptomatic and highly hemorrhagic. PG is also called as 'Pregnancy Tumour' and ' granuloma gravidarum' [4] as it develops in upto 5 % of pregnancies. This is attributed to the presence of hormonal condition and local irritation. So, comprehensive dental examination ,periodontal evaluation and complete scaling has to be done on all preganant patients.

Differential diagnosis of PG includes Peripheral Giant Cell Granuloma (PGCG), Peripheral Ossifying Fibroma, hyperplastic gingival inflammation, Kaposi's sarcoma, angiosarcoma, Non Hodgkin's Lymphoma and bacillary angiomatosis. Considering the fact that our patient had Chronic Renal Failure, giant cell lesion associated with secondary hyperparathyroidism can be considered in the differential diagnosis. But our patient's laboratory investigation profile showed no evidence of increased parathyroid function. PGCG is the near differential diagnosis , but there was neither bone resorption nor the colour bluish purple. Since the patient was lost to follow up, no histopathological evaluation was done and hence no final diagnosis can be made. But based on history, clinical appearance and by ruling out other differential diagnosis, a clinical provisional diagnosis of multiple pyogenic granuloma of the gingiva was made.

Excisional biopsy is the treatment for PG, except when the procedure would produce marked deformity [1]. The source of continuing irritation must be removed by excising the lesion down to the periosteum and the adjacent teeth should be thoroughly scaled for gingival PG [4]. Other treatments proposed and used include Nd:YAG laser by Powel et al [20], flash lamp pulsed laser by Meffert et al [21] and cryosurgery by Ishida and Ramos e- Silva [22]. Other treatment approaches includes injection of absolute ethanol in treating recurrent cases and sodium tetra decyl sulphate sclerotherapy.

CONCLUSION:

Although solitary PG of the gingiva are quite common with well known etiologic factors, multiple oral PG both in the maxillary and mandibular gingiva in a 48 year old woman with a history of chronic renal failure ,is quite a rare presentation. Complete revival of history, appropriate diagnosis , prevention amd management of PG are important though it is a non- neoplastic growth.

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