CASE REPORT

Fibrosed pyogenic granuloma on the mandibular anterior region – A case report

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Abstract

Pyogenic granuloma (PG) is a commonly occurring inflammatory hyperplasia of the skin and oral mucosa. PG is considered a reactive tumor-like lesion seen in the oral cavity caused due to low-grade local irritation, traumatic injury, or hormonal factors. It is not associated with pus as its name suggests, and histologically, it resembles an angiomatous lesion rather than a granulomatous lesion. It is known by a variety of names such as Crocker and Hartzell’s disease, granuloma pyogenicum, granuloma pediculatum benignum, benign vascular tumor, and during pregnancy as granuloma gravidarum. This tumor-like growth is considered to be nonneoplastic in nature, and it presents itself in the oral cavity in various clinical and histological forms. We present a case of fibrosed PG in a 57-year-old female patient who had undergone treatment from the quacks 8 years back.

Keywords: Peripheral giant cell granuloma, peripheral ossifying granuloma, pyogenic granuloma

Introduction

The term “pyogenic granuloma (PG)” is a misnomer because the lesion does not contain pus and does not represent a granuloma histologically. Over the years, various authors have suggested other names such as granuloma gravidarum/pregnancy tumors, Rocker and Hartzell’s disease, vascular epulis, benign vascular tumors, epulis telangiectatum granulomatous, and lobular capillary hemangioma (LCH). It is a kind of inflammatory hyperplasia. Hullihen’s (1844) reported the first case of PG. The term “PG” or “granuloma pyogenicum” was introduced by Hartzell (1904). Hence, it was also called a Crocker and Hartzell’s disease. The PG is a proliferative lesion of non-neoplastic nature. It has an unknown etiology, which is primarily characterized by the increased synthesis of the connective tissue due to trauma, local factors, or chronic irritating stimuli. These lesions are mostly encountered in young adult females and children. Pyogenic granulomas are found mostly on the anterior region of maxillary gingiva. These lesions are pinkish to red in color and pedunculated, which mostly bleed spontaneously on palpation.

Synonyms for PG are Crocker and Hartzell’s disease, granuloma pediculatum benignum, granuloma pyogenicum, benign vascular tumor, and it is called as granuloma gravidarum during pregnancy.

In dermatologic literature, PG is described as “granuloma telangiectacticum” due to the presence of numerous blood vessels seen in histological sections. They described two forms of pyogenic granulomas, the LCH and the non-LCH. Pyogenic granulomas commonly occur on the skin or the oral cavity but seldom in the gastrointestinal tract. It is now universally agreed that this lesion is formed as a result of an exaggerated localized connective tissue reaction to a minor injury or any underlying irritation. The irritating factor can be calculus, poor oral hygiene, non-specific infection, overhanging restorations, cheek biting, etc. Due to this irritation, the underlying fibrovascular connective tissue becomes hyperplastic and there is a proliferation of granulation tissue which leads to the formation of a PG.

Case Report

A 57-year-old female patient reported to the department of oral medicine and radiology, with a chief complaint of growth on the lower front tooth region for 3 years. The growth was gradual in onset intermittent and asymptomatic in nature. The patient also gave a history of mobile tooth 8 years back and visited a quack for the same. The quack applied clove oil and some cement on her tooth to stabilize the mobile tooth in the upper and lower arch. The cemented tooth had fallen off 15 days back, so she came to the replacement. She also noticed the growth 3 years back and was not aware of the size of the growth. The patient was hypertensive for 10 years and was under medication (amlodipine) for the same. The patient was also a known diabetic and was under medication (metformin) for the same for 10 years. The patient had undergone...
extraction 15 days back. The patient had a habit of chewing pan-
parag for 5 years and discontinued as she developed a headache.
Extraoral examination of the head and neck revealed presence
of the left solitary submandibular lymph node enlargement
<3 cm in size, which was soft, mobile, and non-tender.
Intraoral examination a soft-tissue growth was seen on the lingual
aspect of the residual alveolar ridge which was resorbed, surface
is lobular, no surface ulcerations measuring about 4 × 2 cm in size,
roughly oval in shape, and had a sessile base attached to the floor of
the mouth and could be moved around the base. It was erythematous
as compared to normal mucosa with well-defined margins [Figure 2].
On palpation, it was non-tender, soft to firm in consistency, had
a lobular surface. Based on the clinical presentation, a provisional
diagnosis of peripheral giant cell granuloma was given. Pyogenic
granuloma, peripheral ossifying fibroma, irritational fibroma, and
epulis fissuratum were considered as differential diagnoses.
Excisional biopsy of the growth was done from the floor of
the mouth under LA [Figures 3 and 4].
Histopathological report came as fibrosed pyogenic
granuloma.
The hematoxylin and eosin-stained soft-tissue section showed
parakeratotic stratified squamous epithelium with some areas
atrophy of epithelium also evident. The underlying connective
tissue shows densely packed irregular collagen fibers interspersed
with plump fibroblasts and fibrocytes [Figure 5]. Moderately
vascularized tissue with numerous endothelial lined capillaries
with extravasated red blood cell and mild inflammatory infiltrate
composed of lymphocytes and plasma cells. The underlying
submucosa shows numerous mixed salivary gland and adipose
tissue [Figure 6].

Treatment
The treatment with the lowest rate of recurrence for PG is excision.
Depending on the area, size and patient wishes, curettage,
electrocautery, radiosurgery, cryosurgery, sclerotherapy, or laser
treatment are alternative options. Among lasers, diode lasers of
wavelength between 808 and 980 nm or solid-state neodymium
– yttrium-aluminum-garnet (Nd:YAG) lasers, erbium-YAG, and
CO₂ lasers have all been used successfully. Erbium-YAG laser
lacks coagulation, what may become a disadvantage in larger
lesions.⁶

Figure 1: Profile picture
Figure 2: Soft-tissue growth in the lingual aspect of the alveolar ridge
Figure 3: Excision of the lesion under LA
Figure 4: Specimen measuring about 29 × 15 × 12 mm in size
Discussion

According to Regezi et al., the injury caused by known stimulants such as calculus or foreign material present within the gingival crevice can cause pyogenic granuloma, which may result in connective tissue proliferation. As PG is not a true granuloma; thereby, this term is a misnomer. Actually, this lesion is a lobular subtype of capillary hemangioma; therefore, bleeding is more likely to occur. Furthermore, it is not truly pus producing (pyogenic) also, because generally, there is no association with infection or pus production.

There are various occurrences based on appearance of pyogenic granuloma. The colors range from reddish-pink to purple, and the surface can be lobulated or smooth. Size can range from a few millimeters to centimeters. They are mostly soft and painless. The prognosis of PG is generally good. The recurrence rate is 16%. Myxoid structures present in this lesion can cause recurrence. The term PG is that there are many factors which are associated with the development of these lesions, among which some are as follows: Defective restorations, chronic irritation, residual roots, previous extractions, prosthetic trauma, poor oral hygiene, graft rejection, brushing trauma, as well as natal and neonatal teeth. The most common intraoral site of PG is the gingival, as this area is most commonly subjected to the action of trauma and irritating agents. The sites other than gingival which may be frequently involved are lips and tongue.

PG is commonly slow-growing, but occasionally, these can also present with rapid growth and clinician can get confused with a malignant neoplasm. PG occurs in all age groups. There is no clear predominance of a gender. PG appears as small or large, smooth, or lobulated, reddish exophytic vascular nodules that can grow rapidly. Larger lesions become lobulated and sometimes develop into mushroom-like, pedunculated tumors. PGs have a tendency to bleed profusely. Bleeding is the leading symptom for a visit to the doctor’s office.

PG can mimic other vascular tumors, including Kaposi form hemangioendothelioma, infantile hemangiomas, vascular malformations, and Kaposi sarcoma. In the so-called “Kaposi-like PG,” human herpesvirus type 8 could be identified. These lesions are true Kaposi sarcomas, not PG. Other malignancies that can mimic PC are malignant lymphomas, basal cell carcinoma, or malignant melanoma.

The usual treatment for PG consists of excision, the treatment with the lowest rate of recurrence. Depending on the area, size, and patient wishes, curettage, electrocautery, radiosurgery, cryosurgery, sclerotherapy, or laser treatment are alternative options. In this case, surgical excision of the lesion was done to diagnose and treat the case. Since the lesion was in a non-aesthetic zone, scar formation was not an issue. Overall, the excision satisfied the patient needs.

Conclusion

This article seeks to report a large PG on the floor of the mouth with a detailed review of the etiologies, clinical features, histological presentations, differential diagnoses, treatment modalities, and recurrence rate. Even though PG is a relatively common presentation, a thorough understanding of the lesion is prudent to differentiate it from similar clinical presentations with appropriate treatment modalities yielding excellent results.

Declaration of Patient Consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient had given her consent for her images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.
References