CASE REPORT

Pyogenic granuloma of posterior mandible – A case report

Durga Okade, Tejavathi Nagaraj, Swati Saxena, Arundhati Biswas

Department of Oral Medicine and Radiology, Sri Rajiv Gandhi College of Dental Sciences, Bengaluru, Karnataka, India

Abstract

Pyogenic granuloma (also known as an “eruptive hemangioma,” “granulation tissue-type hemangioma,” “granuloma gravidarum,” “lobular capillary hemangioma,” “pregnancy tumor,” and “tumor of pregnancy”) is a vascular lesion. It occurs on both skin and mucosa and appears as an overgrowth of tissue due to irritation, hormonal factors, physical trauma, etc. It is often involved with the gingiva, the skin and nasal septum, and has also been observed far from the head region, such as in the thigh. This article reports a case of pyogenic granuloma in a male patient aged 25 years with a small swelling in his posterior mandible region since 1 week. Histopathological examination of the biopsy specimen confirmed the diagnosis of lobular capillary hemangioma. The patient had undergone extraction of 35. Prognosis was good.

Keywords: Hemangioma, lobular capillary hemangioma, pyogenic granuloma

Correspondence:
Dr. Swati Saxena, Department of Oral Medicine and Radiology, Sri Rajiv Gandhi College of Dental Sciences, Bengaluru - 560 032.
Phone: +91-9015660832.
E-mail: swatisaxen@gmail.com

Received: 02 May 2017; Accepted: 15 June 2017
doi: 10.15713/ins.jmrps. 102

Introduction

The hyperplasia of the skin and oral mucosa leads to formation of pyogenic granuloma, which is inflammatory in nature. On seeing under microscope, it looks like an angiomatous lesion more than a granulomatous lesion. Two French surgeons, Antonin Poncet and Dor, first described pyogenic granuloma and named the lesions as botryomycosis hominis in 1897.

Synonyms for pyogenic granuloma are Crocker and Hartzell’s disease, granuloma pediculatum benignum, granuloma pyogenicum, benign vascular tumor, and it is called as granuloma gravidarum during pregnancy. It is non-neoplastic and it can be seen in various clinical and histological forms in the oral cavity. Clinically, they can be described as a soft tissue mass, sessile/pedunculated, smooth/lobulated, and can vary in size. In this article, we report a case of pyogenic granuloma in the posterior mandible in a 25-year-old male patient.

Case Report

A 25-year-old male patient [Figure 1] reported to the Department of Oral Medicine and Radiology, Sri Rajiv Gandhi College of Dental sciences and Hospital, Bengaluru, with a chief complaint of food lodgment in left lower back tooth region for 2 years. A history of presenting illness revealed that the swelling started 2 weeks back. Initially, the swelling was small and gradually increased to its present size. Swelling was painless.

Medical history was non-contributory. In extraoral examination, there was no abnormality detected. Intraoral examination revealed a solitary localized sessile gingival growth [Figure 2], arising from the attached gingiva in between left mandibular permanent canine and left mandibular first premolar but was not interfering with the occlusion. It was pinkish white, roughly round in shape, and measuring approximately 1 cm in diameter. The surface of the lesion had no ulcerations and was smooth. No mobility was seen on the teeth associated with it. Tooth no. 35 was buccally placed and had deep abrasion. Tenderness on percussion and periodontal pockets were present with 34 and 35. The oral hygiene of the patient was poor and significant amount of calculus was seen.

A provisional diagnosis of pyogenic granuloma was made because of its growth, clinical appearance, and by considering the trauma from local factors (calculus) present. Differential diagnosis of peripheral giant cell granuloma, peripheral ossifying fibroma, and hemangioma was given.

Radiographically, bone loss till the apical 3/4, ill-defined radiolucency in periapical region of 35 suggestive of pulpoteriodontal lesion (due to deep abrasion and periodontal findings) and widening of periodontal ligament space in relation to 34 was visible [Figure 3].
The lesion was excised under local anesthesia, postsurgical instructions were given. The specimen of excised lesion was sent for histopathological examination. Uneventful satisfactory healing occurred after 1 month.

Tooth No. 35 was extracted. Follow-up of the patient has done to evaluate the recurrence.

**The excised lesion**

Single tissue mass measuring approx. 0.7×0.6×0.2 cm in size, roughly round in shape. The color of the lesion was reddish pink, consistency was soft and the surface was smooth [Figure 4].

**Microscopic features**

The section (H and E stained) shows parakeratinized stratified squamous epithelium. Connective tissue is highly vascular in nature containing multiple proliferating budding capillaries, occasionally filled with red blood cells. Moderately infiltrated with chronic inflammatory cells predominantly lymphocytes [Figure 5].

**Diagnosis of the case**

On the basis of clinical as well as histopathological findings pyogenic granuloma or lobular capillary hemangioma was made.

---

**Figure 1:** Front profile of the patient

**Figure 2:** Lingual view of the gingival growth

**Figure 3:** Intraoral periapical radiograph of the patient in relation to 33, 34, and 35

**Figure 4:** Excised lesion

**Figure 5:** Histologic section of the excised lesion
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.\(^3\)

According to Ainamo, the routine habit of tooth brushing can traumatize the gingival tissue repeatedly which will result in irritation and formation of the pyogenic granuloma.\(^4\) In addition, there is release of various angiogenic and endogenous substances which will cause disturbances in the vascular supply of the affected area.

As pyogenic granuloma 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 of 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 pyogenic granuloma is generally good. Recurrence rate is 16%. Myxoid structures present in this lesion can cause recurrence.

Oral pyogenic granulomas can occur from children to older adult (any age group), but they are seen frequently in second decade of females because of the high levels of circulation of hormones, that is, estrogen and progesterone.\(^5\)

According to the observation of Hosseini et al., during pregnancy, there is increased gingival enlargement whereas in menopause, it is atrophied.\(^6\)

Depending on the vascularity of the growth, the lesion can be of varied colors, ranging from pinkish red to reddish purple.\(^7\)

Mostly, the lesion is slow growing, but sometimes it can grow rapidly and can have varied sizes ranging from millimeters to several centimeters.\(^8\) It is generally painless and often asymptomatic.\(^9\)

The treatment for pyogenic granuloma is excisional biopsy of the lesion, but if this treatment produce a marked deformity then incisional biopsy is recommended.\(^10\)

Conclusion

Pyogenic granuloma is the most common lesion of the gingival. It can also be seen in the other parts of the oral cavity and the skin. This case report of a male patient having pyogenic granuloma in the posterior mandible gives an insight into its causes, clinical features, histopathological presentations, and treatment modalities. It also describes how we came to a diagnosis and completed treatment of such case was completed. The article also highlights that though we use the term pyogenic granuloma frequently but this lesion is not associated with pus, and histologically it looks more like an angiomatous lesion than a granulomatous lesion.

The oral physician should be skilled to give the correct diagnosis to aid in the proper treatment planning. A careful management of the lesion should be performed considering the simpler and non-invasive protocol procedures while preserving and improving the mucogingival complex.

References
