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Case Report

An Untreated Case of Pyogenic Granuloma with Profuse Bleeding Leading to Recurrence of the Lesion

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Abstract

Pyogenic granuloma (PG) is a common non-neoplastic growth that can lead to various complications if left untreated. Accurate diagnosis and surgical removal are crucial to avoid adverse outcomes. This article presents a case of a 47-year-old woman with a pyogenic granuloma in the interdental space between her maxillary right molars. The lesion was successfully treated using a less invasive conventional excision method, with no recurrence to date. Histopathologic evaluation confirmed the diagnosis of pyogenic granuloma. This case report highlights the importance of timely and appropriate management of pyogenic granuloma for optimal clinical outcomes.

Keywords: Electro-Section; Sclerotherapy; Pyogenic Granuloma; Recurrence

Abbreviations

Pyogenic granuloma is a form of soft tissue tumour that commonly occurs in the oral cavity. It is thought to be a reactive, instead of neoplastic, development caused by an overreaction to local irritation or damage. These lesions often manifest as a solitary nodule or sessile papule with a smooth or lobulated surface and their size can have a broad range. The vascularity of the lesions decreases as they grow, causing a more collagenous and pinkish look.

PG is most commonly seen in teenagers and young adults, with a higher occurrence rate in females compared to males (2:1). Pregnant women also have an increased likelihood of developing these lesions, which may be linked to rising levels of estrogen and progesterone hormones during pregnancy [1].

The gingiva is usually involved in PG of the oral cavity (75% of all cases). It can appear on the lips, tongue, buccal mucosa, palate, and other areas.

The aim of this article is to describe a case where pyogenic granuloma recurred on the maxillary molar area, causing rapid destruction of bone [2].

Case Report

A female patient aged 47 years was referred to the Department of Periodontics and Oral Implantology at KIIT University, KIDS BBSR, due to swelling in the upper right back tooth region that had been present for 2-3 months. Although the lesion was painless, the rapid growth of gingival tissue and intermittent bleeding caused discomfort while eating. The patient reported a similar growth in the same area about two years prior, which had been excised in another institution, and a biopsy specimen confirmed it to be pyogenic granuloma (PG). The patient's medical history and extra-oral examination were unremarkable. Upon intraoral examination, a large lobulated sessile mass on the buccal gingiva was observed, extending buccally around the right maxillary first and second molars. The initial clinical impression was that the lesion was highly vascular, reddish-pink, and covered by a pseudo-membrane in some areas. The lesion measured approximately 30 mm x 25 mm x 25 mm, with soft to firm consistency, and bleeding upon touch. This presentation suggested the recurrence of pyogenic granuloma, which required further evaluation and management (Figure 1).

The patient exhibited poor oral hygiene and localised severe

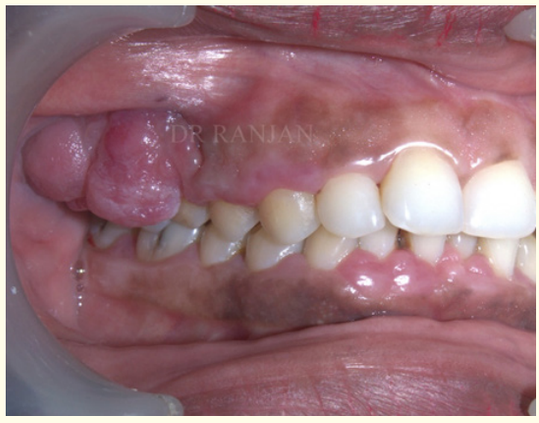

Figure 1

periodontitis in the right maxillary posterior region, according to a periodontal examination. Due to periodontal disease, CBCT radiography revealed significant vertical and horizontal bone loss on the right maxillary posterior teeth. Despite this, no obvious abnormalities were seen in the growing area (Figure 2).

Investigations

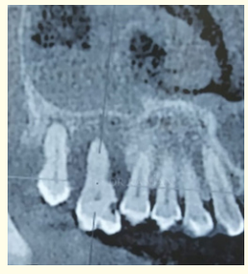

Figure 2

Before performing an excisional biopsy, a routine blood examination was recommended. The results showed that all blood counts were within normal ranges, except for a slightly lower concentration of hemoglobin (11.6 gm/dl).

Differential diagnosis

The differential diagnosis of the lesion was peripheral giant cell granuloma, peripheral ossifying fibroma, haemangioma, and hyperplastic gingival inflammation based on the clinical symptoms and the prior biopsy report. Recurrent pyogenic granuloma was the preliminary diagnosis. The patient was requested to sign a written informed permission form before electrocautery was used to remove the lesion. Due to severe periodontitis and bone loss, the right maxillary first and second premolars, as well as the second molar, were extracted under regional anaesthesia (lignocaine 2% with 1:200,000 epinephrine).

Treatment

Under local anaesthetic, an excisional biopsy of the soft tissue lesion was done, and sutures were placed (Figure 3, 4)

Histopathological analysis of the removed tissue (Figure 4) revealed fibrovascular connective tissue with a thick inflammatory infiltration dominated by lymphocytes, neutrophils, and plasma cells (Figure 5).

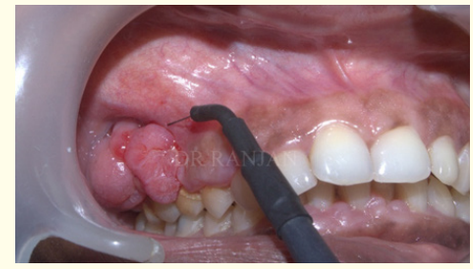

Figure 3

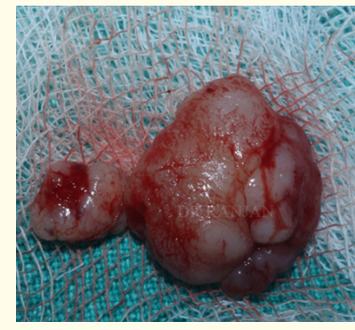

Figure 4

The tissue had numerous small and large blood vessels, endothelium coated blood capillaries, and extensive inflammatory cell infiltration (Figure 6).

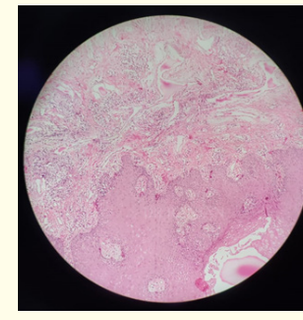

Figure 5

Thus, a clear diagnosis of pyogenic granuloma was made based

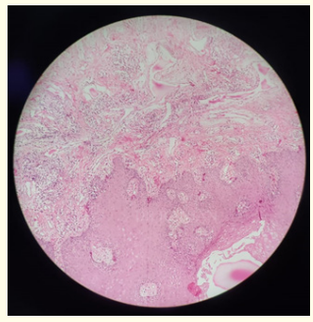

Figure 6

on clinical and histological investigations.

Outcome and follow-up

The patient was monitored for any postoperative bleeding until the next day. However, there was no visible bleeding from the surgery site. The patient was called back one week following the procedure for suture removal. The healing process went without incident, and the patient was pleased with the outcome. Scaling and curettage were done thoroughly given that there could be further recurrence. For the next six months, the patient was monitored on a regular basis. The lesion did not re-occur throughout this time (Figure 7).

Discussion

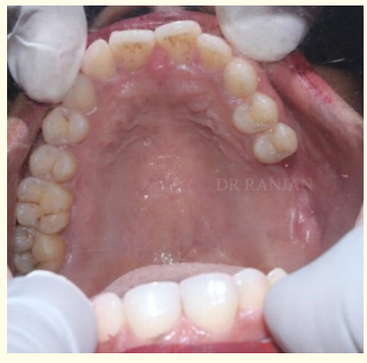

Figure 7

Oral pyogenic granuloma is a type of mucosal vascular hyperplasia with no recognised origin. However, it is commonly considered that it is a reactive lesion that develops in response to a range of stimuli such as persistent low-grade local irritation, traumatic damage, hormones, drugs, viral and bacterial infections [3-7]. A trauma history is present in around one-third of the cases [8]. Several studies have found a link between poor oral hygiene and pyogenic granuloma [9].

A PG variant is a pregnancy tumour, which occurs in up to 5% of pregnancies due to hormonal imbalances [10]. The lesion, however, does not contain pus and appears to be unconnected to the infection, as previously thought. The presence of calculus, which acted as a persistent irritant in this case, may have contributed to the onset of PG. A previously unknown severe injury could be the source. There was, however, no proof of drug use.

Although bleeding is common in PG, the one in the present instance was rather severe. Because of the strong vascularity of the lesion, even minor injury might cause substantial bleeding. Early PGs have a higher risk of bleeding due to the amount of hyperplastic granulation tissue and visible capillaries. As the lesion ages, it becomes more collagenised [3].

The colour of pyogenic granuloma can vary depending on age, with younger lesions having red to purple and later lesions being pink. In this case, the lesion was new and growing quickly, presenting a rich red colour. The lesion showed extremely vascular growth suggesting granulation tissue on pathological investigation [3].

Pyogenic granulomas are distinguished by the presence of numerous tiny and large blood arteries divided by less vascular fibrotic septa. In the current example, it is probable that an undiscovered trauma during mastication caused the capillaries underlying the lesion to rupture, triggering copious haemorrhage.

The presence of polymorphs and chronic inflammatory cells across the oedematous stroma, with endothelium bordered by capillaries, is one of the common observations in PG.

A non-lobulated mass of angiomatous tissue forms the majority of the lesion [11]. This case's histology findings were in line with those previously described in the literature.

PG treatment differs according to the dimension and site of the lesion. Excisional biopsy is the most prevalent therapeutic choice, but other treatments may be considered. In bigger lesions, an incisional biopsy may be suggested for minimising deformity. Cryosurgery, electro-section, 100% ethanol injection, and sodium tetradecyl sulphate sclerotherapy are other conservative therapeutic options [12,13].

The primary therapeutic option in this situation was electrosection. This was due to the lesion's moderate size, difficulty in access, and proclivity to bleed easily. Furthermore, the lesion might get entirely excised while bleeding is controlled with this procedure.

It is critical to maintain adequate dental hygiene after therapy

to avoid the lesion from returning [14]. This involves complete oral prophylaxis to remove dental plaque and calculus. Any variables that may induce chronic soft tissue irritation, such as defective restorations or sharp cusp indications, should be addressed. Patients should be instructed to practise good oral hygiene and to utilise a soft toothbrush, as well as should have regular oral follow-up exams. In this case, the patient was examined for 6 months after therapy and there was no recurrence of the lesion throughout that period.

This statement describes how oral PG, although benign and slow-growing, can still pose a serious risk due to its specific features, such as its tendency to bleed, which was observed in the current case.

Conclusion

The recurrent lesions should be wisely treated with the aim of removing the etiological factors and also not to have a detrimental effect on the underlying and adjacent soft and hard tissues.

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