



ORIGINAL RESEARCH PAPER

Dental Science

MANAGEMENT OF RECURRENT PREGNANCY INDUCED PERIPHERAL GIANT CELL GRANULOMA: A CASE REPORT

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INTRODUCTION

The most prevalent oral giant cell lesion was found to be a peripheral giant cell granuloma. Most likely, this lesion is reactive in nature rather than a real tumour. It develops from the connective tissue of the periodontium or periosteum [1] Instead of being a real tumour, it is a benign hyperplastic reactive lesion that developed in reaction to local irritation brought on by tooth extraction, poor dental treatment, loose dentures, plaque, calculus, food impaction, and long-term trauma.

Although it has been assumed that local trauma or irritation is what caused the initiating stimulus, the exact cause is unknown. Although it has been referred to as a peripheral giant cell "reparative" granuloma, its reparative potential has not been proven, and the nature of its osteoclastic activity raises a few concerns. It has osteoclastic activity when cultivated in vitro and immunohistochemistry has shown that it has membrane receptors for calcitonin. While some authors contend that the mononuclear phagocyte system is responsible for the formation of the lesions, others have argued that osteoclasts are to castigate [2-6]

Chronic trauma can cause inflammation, granulation tissue with proliferating fibroblasts and endothelial cells, chronic inflammatory cell proliferation, and reactive hyperplasia, which is an overgrowth. These tumor-like lesions are not cancerous, but they do point to a long-term process in which an amplification of the healing process (granulation tissue and scar formation) takes place after damage.[7-9]

Clinical signs of PGCC include firmly, soft nodules, sessile or pedunculated masses, and occasionally an ulcerated surface. It might be anything from deep crimson to purple or blue.4 It can be found at the level of the marginal gingiva, the edentulous alveolar edge, or the interdental papilla.[9] Although they can be found in a variety of sizes, their diameter is rarely said to exceed 2 cm.9 However, there have been instances of masses larger than 5 cm, where xerostomia or poor oral hygiene appear to be major contributors to lesion growth.[1]

This case report presents a case of peripheral gaint cell granuloma, occurred for the third time in a lady in her second trimester of the second pregnancy period. All the clinical and histological finding will be discussed.

Case Report

A female patient aged 27 yrs visited the department of Oral and Maxillofacial Surgery of Maharana Pratap college of Dentistry & Research Centre, Gwalior (M.P.) with the complaint of pain, swelling and overgrowth of gums on her left side distal to the 2nd molar. The lesion first appeared at 2nd month of her pregnancy and consistently increasing the size. The woman was in the second trimester when she visited the department. The patient gave history of occurrence of the same lesion twice before this incidence and also underwent

excision twice. This is her second pregnancy and a similar lesion was observed in her first pregnancy which was excised earlier.

On intraoral examination, there was a single, diffuse swelling on the left side of the mandible in the area of the third molar involving distal side of the second molar. [Figure 1] Orthopantomogram revealed signs of bone resorption in the area of the lesion also there was bone loss around the lesion involving the first molar. [Figure 2] As the first molar was also carious and the prognosis was poor, both the molars were extracted along with the excision of the lesion. The line of treatment planned was the excision of the mass under local anesthesia followed by the biopsy of the excised mass. The mucosa was incised; the lesion was then dissected from the surrounding tissue and removed as a single entity [Figure 3]; hemostasis achieved and the wound closure was done with 3-0 silk sutures [Figure 4]; the resulting mass was sent for histopathologic analysis; followed by post-operative instruction; the sutures were removed after one week



Figure 1: Intraoral view of the lesion



Figure 2: OPG showing the area of the lesion



Figure 3: Immediate post-op with wound closure



Figure 4: Excised mass for biopsy

The histopathological examination revealed fibrocellular and reticular connective tissue stroma when H and E staining was done. Also there were numerous multinucleated giant cells, interspread within the stroma. It is richly vascular, particularly around the periphery. Mild inflammatory infiltrate was also noted. Although the provisional diagnosis was pyogenic granuloma, after the histopathological analysis, the final diagnosis was peripheral giant cell granuloma.

DISCUSSION

Because of the high levels of oestrogen and gonadotropic hormones during pregnancy, glycogen deposition in the epithelium is accelerated. The end result is papillae and blood vessel hyperplasia, which results in both hyperplasia and enhanced vascularity. Pregnancy-related hyperplastic gingivitis is the outcome of this. Many authors now classify the lesion that obstetricians commonly refer to as a pregnancy tumour or giant epulis as a peripheral giant-cell granuloma. [10]

A non-neoplastic oral tumorous growth known as a peripheral giant-cell reparative granuloma most usually affects the gingival tooth-bearing regions. Given the abundance of benign multi nucleated giant cells, it is most likely inflammatory. There isn't a clear distinction based on age. Trauma frequently causes interstitial bleeding. The pathophysiology is considered to include infection. Most common location of the lesion is between anterior teeth followed by posterior tooth.

It has long been known that the gingiva is hormonally sensitive because of elevated cellular infiltration and vascularity, which has been demonstrated to happen both during pregnancy[11] and in response to exogenous progestin.[12,13] When the gender of the patient was investigated, an examination of the literature of 720 instances of peripheral giant-cell granuloma showed that 65% of them were female,[14] again pointing to a hormonal connection. Certainly, these hormones could trigger an immunosuppressive reaction, promoting the lesion's development.

When seen under a microscope, it exhibits significant levels of mitotic activity in the connective tissue components, inflammatory cells, vasoformative components, and a variety of benign cells. The vesicular nuclei and conspicuous nucleoli in the large cells are in various numbers. They occasionally contain a lot of nuclei. Although the giant cells occasionally show up in close proximity to capillaries and haemorrhage foci, they are typically dispersed. [15] It may be challenging to distinguish the granuloma from a variety of oral diseases, including odontogenic cysts and malignant growths. Pyogenic granuloma and Brown's tumour commonly gets confused with the peripheral giant cell granulomas.[16] A thorough history and physical examination is must. Regular X-ray examinations and biopsies are required.

CONCLUSION

Early detection of peripheral giant cell granulomas helps prevent the invasion of nearby soft and hard tissues, especially bone and teeth. A key aspect in avoiding the recurrence of the peripheral giant cell granuloma is precise diagnosis, identification, and elimination of the etiological cause at fault.

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