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Case Report Open Access

A Case Report of Peripheral Giant Cell Granuloma

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Abstract

Peripheral giant cell granuloma (PGCG) is a rarely seen benign lesion at soft oral tissue. In this report, the patient had a history of central giant cell granuloma at the left mandibular posterior region. The lesion was excised two years ago. Patient was consulted to our hospital for soft tissue growth at right maxillary anterior region. Excisional biopsy was planned and the lesion was examined histopathologically. Giant cell reparative granuloma was described and routine examination was advised to the patient.

Keywords: Peripheral Giant Cell Granuloma; Jaw; Reactive; Epulis; Benign Tumor

Introduction

Chronic trauma and infections, dental plaque formation, incompatible restorations, food impaction or orthodontic therapy can induce inflammation and formation of granulation tissue that contains endothelial cells, chronic inflammatory cells and fibroblasts [1]. This proliferative reaction of soft tissue is called reactive hyperplasia [2].

PGCG is a common reactive hyperplastic lesion of the periosteal connective tissue or the periodontal membrane that includes giant cells [1]. This lesion is not a real neoplasm. Hormonal disorders can cause PGCG and some lesions can generate idiopathically [3].

Clinically, PGCG occurs as a soft, shiny nodule or as a stemless or pedunculated lesion with occasionally ulcerated surface. It can be seen in different colors like dark red, purple or blue [4]. The locations of this lesion are the interdental papilla, gingival margin or edentulous alveolar crest [3,5].

It can be seen in different sizes and is rarely reported to exceed 2 cm in diameter [4]. Lesions larger than 2 cm have been reported in cases that has severe poor oral hygiene or xerostomia [5]. When the lesion gets larger, probability occurance of unfavorable affects such as bleeding increase [1]. Pain can be related with surface ulceration or infection [5]. Resorption of the underlying bone and radiolucent area at radiographs can develop in some cases [5]. The lesion is more common in the fifth and sixth decades of life in females [3].

Treatment consists of surgical resection, in which the base of the lesion is thoroughly cleaned to prevent recurrence [3]. It may occur spontaneously without an etiologic factor.

Case Report

A 69-year-old female patient consulted to our hospital with the complaint of swelling in the right maxillar anterior region since 1 year. The patient had used total prosthesis for a long time. The size of lesion increased slowly over a period of 6 months. There was no pain or bleeding history. There was a history of surgical excision of central giant cell granuloma (CGCG) in the left mandibular posterior region.

The sizes of swelling were about 1× 1.5 cm on intraoral examination. The lesion was well circumscribed and smooth surfaced (Figure 1). Bone resorption didn't observed at panoramic radiograph (Figure 2).

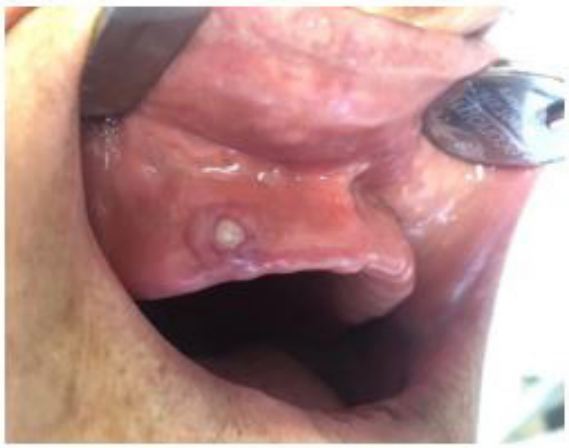

Figure 1: Lesion was well circumscribed and smooth surfaced

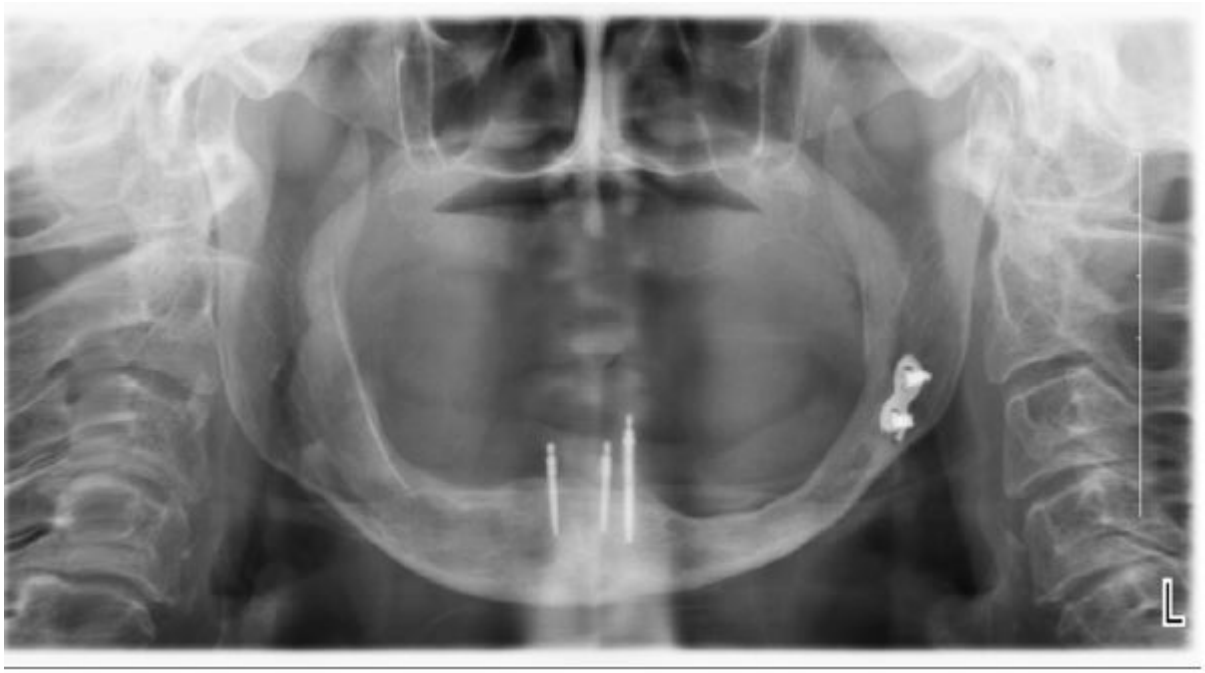

Figure 2: Panoramic radiograph

Excisional biopsy was planned under local anesthesia (LA). The overlying mucosa was incised and undermined. The lesion was dissected from the adjacent tissue and removed (Figure 3). Primary closure was done with 3-0 silk suture. The specimen was sent for histopathologic examination. Sutures were removed after 1 week. The follow-up examinations were advised to the patient.

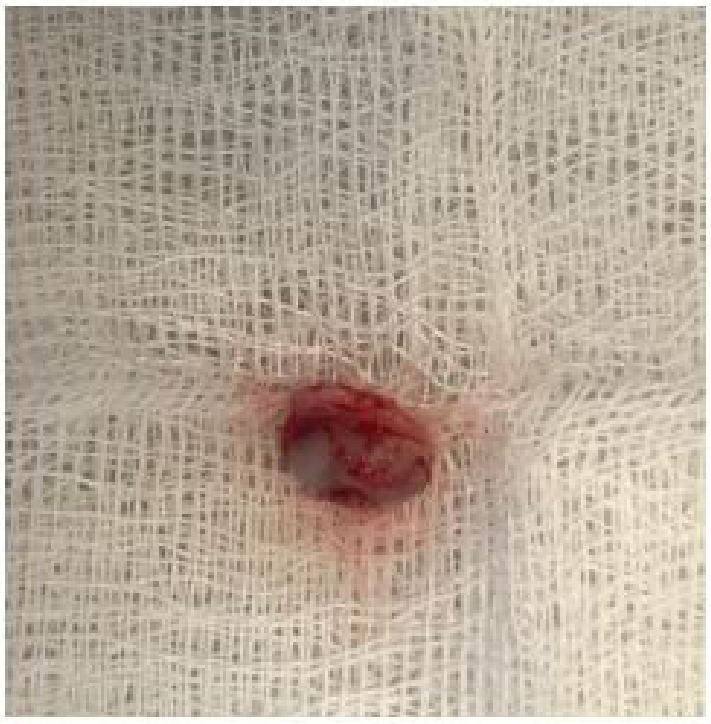

Figure 3: Lesion was dissected from the adjacent tissue and removed

Discussion

Giant cell granuloma (GCG) was first declared by Jaffe in 1953 that named as a giant cell reparative granuloma of the jaws [6]. It is a rarely seen and benign lesion. These lesions are classified to two clinical types: peripheral and central. Peripheral GCG is more common and originates from the periosteum and periodontal membran. The central form is endosseous and it can affect maxilla, temporal bone and paranasal sinuses. This lesion is rarely seen at the mandible [7].

The incidence of PGCG is higher in the age of 30-40 years and mixed dentitional period [8]. Peripheral giant cell granuloma is a reactive, extraosseous lesion and consists because of local irritants such as plaque, calculus, chronic periodontal infections, food impaction, traumatical tooth extraction, dental prostheses [9]. But an exact etiology for the lesion has not been reported.

In females, pregnancy may play a role in occurance of this lesion. The suggested reason of this relation is increasement of estrogen and progesterone. These hormones may affect gingival morphology and the tissue reaction to the pathogenic microorganisms [10,11].

Clinically, PGCG presents as a hypertrophic lesion and pedunculated bases, with smooth-surface and blue or purple-red coloration as a result of blood extravasation [1]. PGCG can be seen in varying sizes that range from small papules to enlarged lesions, but they are generally less than 20 mm in diameter with different colors ranging from dark red to purple. Its surface may be ulcerated [12]. Pain is rarely reported because of chronic trauma or infection of the lesion [13]. The clinical behavior of PGCG is similar to pyogenic granuloma, but the color of PGCG is generally bluish-purple compared with the typical red color of a pyogenic granuloma [14]. Although the PGCG occurs in the soft tissue, superficial alveolar bone resorption is sometimes seen. Differential diagnosis between the peripheral and central giant cell granuloma may be difficult at this situation [15].

Histologically, PGCG is characterized by a non-encapsulated lesion and by a connective tissue rich in immature fusiform and oval cells, multinucleated giant cells, blood vessels, and extravasation of hemosiderin deposits and erythrocytes [5,16]. Multinucleated giant cells may appear in the lumina of the vessels. It is thought that multinucleated cells are osteoclast-type cells and radiographs may reveal an underlying bone lesion [16]. The treatment of PGCG consists of surgical resection including the entire base of the lesion and the eradication of irritant factors [1]. Surgical excision without any additional periodontal approach may result in esthetic or functional deficits such as soft tissue contraction, root exposure, cervical resorption, and/or periodontal support loss [17].

Relaps of PGCG is rare and ranges as little as 5-11% but alveolar bone loss of the adjacent teeth can develop because of multiple recurrences of the lesion [18].

Conclusion

This article reports about the clinical and histopathological findings of PGCG. The patient had CGCG history of mandibula in this report. Considering the predisposition of the patient to this lesion, regular follow-up was recommended.

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