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Large Giant Cell Reparative Granuloma of The Alveolus

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ABSTRACT

Giant cell reparative granuloma is an infrequent exophytic lesion of the oral cavity, also known as giant cell epulis, peripheral giant cell granuloma, or giant-cell hyperplasia. Inflammation or trauma is underlying causative factor of reactive proliferation. Lesions vary in appearance from smooth, regularly outlined masses to irregularly shaped, multilobulated protuberances with surface indentations. Ulcerations of the margin is occasionally seen. The lesions are painless, vary in size, and may cover several teeth. Histopathologically it consists of multinucleated giant cells in the background of mononuclear stromal cells and extravasated red blood cells. This article reports a giant cell reparative granuloma arising in the alveolus on the right side in a 50 year old patient.

KEYWORDS : Giant Cell, Granuloma, Alveolus

INTRODUCTION :

Giant cell reparative granuloma is an infrequent exophytic lesion of the oral cavity, also known as giant cell epulis, peripheral giant cell granuloma, or giant cell hyperplasia.[1,2,3] It is reactive lesion occurring on the gingiva and alveolar ridge usually as a result of local irritating factors such as tooth extraction, poor dental restorations, food impaction, ill fitting dentures, plaque, and calculus[4]. Lesions can be seen in young individuals but occurs in all age groups, it's more frequent in women than in men[5] .They tend to be asymptomatic; however, while pain is uncommon, the lesion may become ulcerated as a result of repeated trauma[6] .

Giant cell reparative granulomas are divided into two subgroups, depending on their location as follows; central or peripheral. Central lesions develop inside the bone and peripheral lesions originate from gingiva or edentulous alveolar mucosa in the oral cavity. Central form is rarely seen compare to peripheral form[7]. Histopathologically, there are multiple hemorrhagic fragments in soft tissue and proliferation of fibroblasts and multinucleated giant cells in a dense stroma. Randomly located hemorrhagic and cell-rich regions form the characteristic granulomatous appearance[8]. These lesions develop from periosteum or periodontal ligament, they may be stalked or sessile and their colors range from dark red to bluish red. They tend to bleed easily[9].

The treatment is usually local surgical excision down to underlying bone. This paper describes the successful treatment of huge giant cell reparative granuloma in 50 years old patient.

CASE REPORT :

A 50 year old male patient reported to ENT Department with a chief complaint of painless swelling in the right lower alveolus for the past 4 months and had grown progressively. He had history of extraction of right first molar 6 months back and history of trauma to the alveolus at the same site with stick 4 months back. Patient had history of cerebrovascular attack 20 years back and fracture of right leg 15 years back. Patient has been on wheelchair ever since. His intraoral examination revealed two raised, round, sessile, smooth-edged masses located on the right maxillary gingiva. One swelling was lateral to the dentition of size 3x1cm and other medial of size 1.5x1cm (Fig:1). Biopsy was taken and sent for histopathology. The result was inconclusive.

Figure 1: Preoperative picture

The patient was informed regarding the diagnosis and treatment plan. Preoperative workup was done and patient was taken up for surgery. Two lesions were completely removed under general anesthesia. We encountered bleeding during removal, homeostasis was secured with cautery (Fig:2).

Figure 2 : Inraoperative pictures

The excised lesions were sent for histopathological examination (Fig:3).

Figure 3 : Specimen sent for HPE

Routine histological examination with hematoxylin and eosin stain were performed. The microscopic features of the lesion were suggestive of Giant cell reparative granuloma. A large number of stromal fibroblastic cells and multinucleated giant cells were seen (Fig:4).

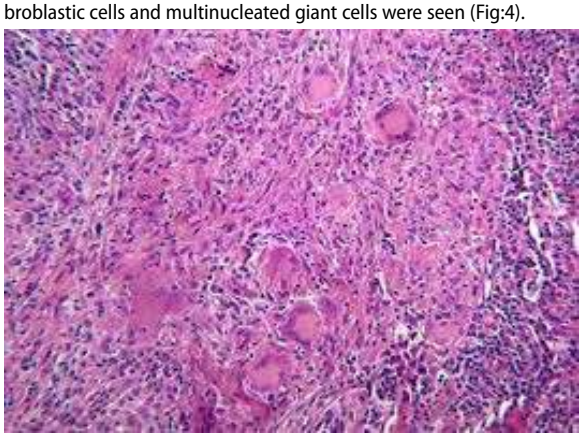

Figure 4 : Histopathological picture

Postoperative healing was uneventful. Patient is still under follow up (Fig:5).

Figure 4 : Postoperative picture

DISCUSSION :

Giant cell reparative granulomas are not true neoplasms; they are benign hyperplastic reactive lesions that are related to local irritation or trauma[11]. Despite their etiology is not clear, many researchers agree that they occur due to the repair process after a damage [7,12]. Tooth extraction, incompatible dental restorations, mismatched dentures, plaque, calculus, food impaction and chronic trauma are among the local factors that may play a role in the formation of a peripheral giant cell granuloma[12]. Giant cell reparative granulomas are reported to be seen most often at maxilla and mandible[12,13]; other than those they can be seen at the cranial bones including ethmoid[14], sphenoid[15], temporal bones[16] and the small bones of hands and feet[17]. They have not been reported to occur at pelvis and long bones until now. The involvement of vertebrae is rare[18]. Giant cell reparative granulomas involve the mandible more frequently than the maxilla[8].

Oral giant cell reparative granulomas' sizes differ from small papules to large masses and they are often localized at interdental papillary, edentulous alveolar ridge or marginal gingiva[2]. In the case that is reported, the lesion was located at the lower jaw. The lesion was larger and had a wider base than most of the cases that were reported in the literature[19]. They can be seen at any age, but usually affect individuals between the ages of 40-60 [8]. These lesions have higher prevalence in females[8]. These lesions are localized to the soft tissues and therefore rarely cause bone erosion. Pain is not usually seen and an increase in the size of the lesion is related with recurrent trauma[2]. These lesions' surfaces are covered with squamous epithelium and their colors change from dark red to bluish red. Depending on the local trauma, the surface epithelium is often ulcerated[14].

In the present case report, the patient had no complaints about pain and the surface of the lesion was hyperkeratinized due to local irritations. Surgery is the most common and the most traditional choice in the treatment of giant cell granulomas[20]. In the present case we encountered excessive bleeding which required meticulous use of cautery at the base. Lesions must be excised entirely with surgical resection and the etiologic factor must be eliminated; but if the resection is inadequate, recurrence may occur.

CONCLUSIONS:

Tooth extraction followed by repeated trauma at the same site led to formation of giant cell reparative granuloma in the present case. Clinically it is difficult to diagnose the lesion differentially with other closely resembling lesions like pyogenic granuloma, peripheral ossifying fibroma and fibroma. Hence a histopathological examination of the tissue specimen is mandatory for confirming the diagnosis. In conclusion, for treating Giant Cell Reparative Granuloma, a complete surgical excision along with its base and elimination of irritating factors seems satisfactory to prevent further recurrence.

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