Case Report

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Central Giant Cell Granuloma of Mandible

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ABSTRACT

Central giant cell granuloma is a benign lesion of a jaw which etiology is unknown. Histologically, hemosiderin pigments, sometimes woven bone trabeculae and hemorrhagic foci of the fibrovascular stroma are characterized by numerous clusters of multinucleated giant cells. Surgical curettage is widely used in the treatment and resection can be done in aggressive lesions. In our case report, a 17-years-old female patient visited our department with painless swelling in mandibular anterior region. On radiological examination, a pyramidal lesion was observed between the lateral and canine teeth. The lesion was excised under local anesthesia. Postoperative symptoms were not observed during radiological and clinical follow-up.

Keywords: *Ciant Cell, Mandible, Granuloma, Surgery*

Introduction

Central giant cell granuloma (CGCG) was thought to be a non-neoplastic, reactive lesion when first identified by Jaffe in 1953. The world health organization (WHO) describes central giant cell granuloma as an intra-osseous lesion that contains multiple nucleated giant cells with intra-osseous fibrous tissue and hemorrhagic foci within the bone. [1] It constitutes for approximately 7% of all benign lesions of the jaws. Most of the lesions are seen in young female patients less than 30 years of age. [2] CGCG is a common lesion in the etiology of unknown jaws. Nevertheless, it is thought to be a reactive, inflammatory, infective, or neoplastic process. According to the CGCG clinical classification 2 types are defined as aggressive and non-aggressive. Clinical symptoms as non-aggressive form: painless swelling and slow progression. [3] However, in aggressive forms, findings such as bone destruction, pain, cortical bone perforation, and root resorption are common. [4] In this case reported a 17-years-old female patient,had nonaggressive CGCG in mandibula anterior.

Case Report

A 17-years-old female patient visited our department with painless swelling in mandibular anterior region. There was no history of previous trauma or dental problems and systemic disease. In the clinical examination she had not extraoral facial swelling and regional lymph nodes were not palpable. An intraoral examination showed swelling and color change in buccal mucosa. It was noticed that the lateral and canine teeth were crowding and that the roots of these teeth were moving away from each other. (Fig. 1) In the radiological examination pyramidal lesion was observed in between teeth with lateral and canine tooth. (Fig. 2) Buccal and lingual cortical bones were resorb but there was no resorption in the teeth's roots. Complete excision of the lesion was performed under the local anesthesia and the entire specimen submitted for histopathological examination. (Fig. 3) During the operation the teeth were not damaged at all. There was no evidence of recurrence till six months of follow-up.

Discussion

CGCG is more general in every age group, especially in patients under 30 years of age and appears more commonly in the mandible than in the maxilla. The effect on women is more frequent than men. [5] The etiopathogenesis of

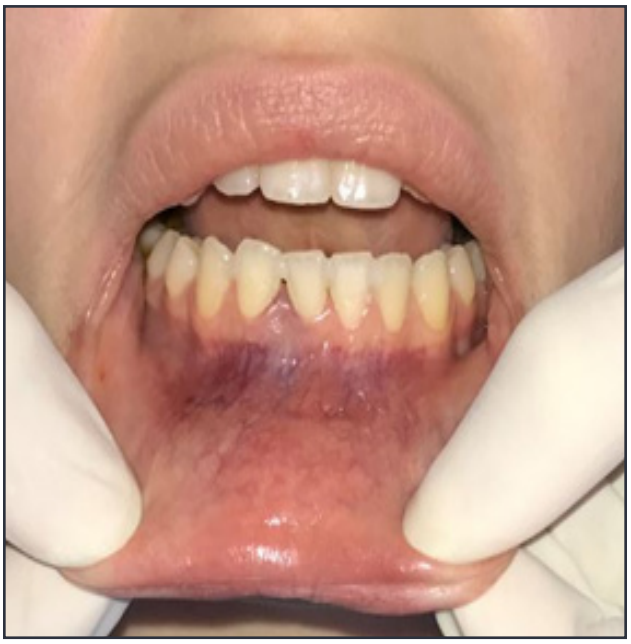

Fig. 1: Pre-operative view.

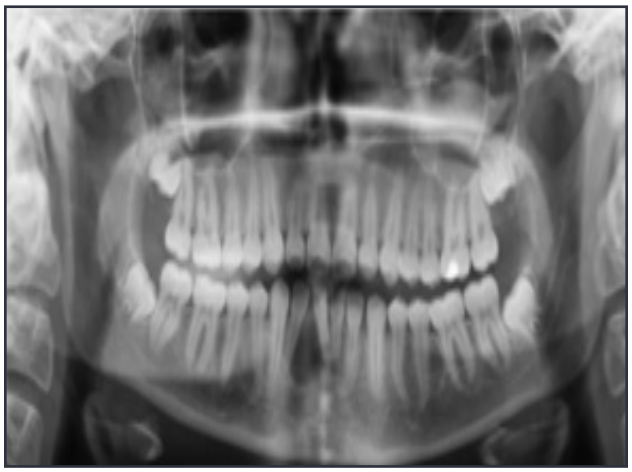

Fig. 2: Radiological image.

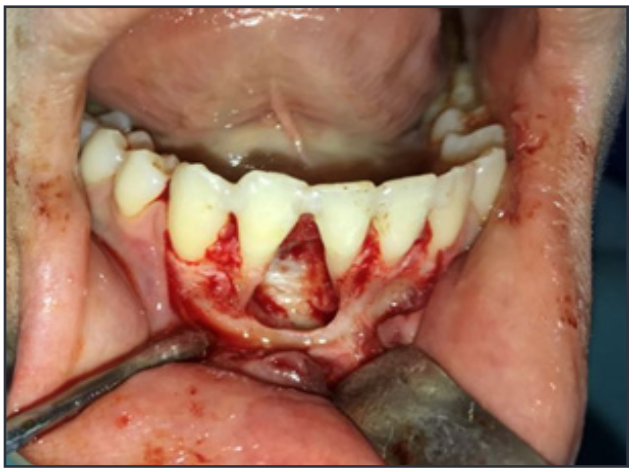

Fig. 3: Image of the lesion after enucleation.

CGCG in the jaws stays controversial. Systemic and local factors are described in the literature [6]. Some researches indicated that accelerated increase and recurrence of the lesion during pregnancy and in the postpartum period, which suggests that CGCG may be hormone-dependent. [7] The CGCG is usually unifocal radiographically. Multifocal cases are more frequently associated with hyperthyroidism and cherubism. [8]

CGCG may not always give the same image radiologically. Usually the lesion occurs as a unilocular or multilocular radiolucency. It can be ill-defined or well-defined and display variable expansion and destruction of the cortical plate. The CGCG does not radiologically show its own image, so it can be confused with the different lesions in the jaws. Since CGCG does not radiologically produce a unique image and at the same time does not have a unique appearance in clinical practice, histopathological evaluation can be done after diagnosis. CGCG usually painless as clinical, radiological focused on a single bone lesion that is shown as the expansion. The aggressive form of CGCG is more destructive and recurrent at the same time. Some lesions are more destructive with a signed tendency to recur. Therefore, a more radical approach should be followed in the treatment of aggressive forms of CGCG. These lesions which are more aggressive will require more radical treatment. [9] .When CGCG is histopathologically examined, osteoclast-type multi-nucleated giant cells are seen in the stroma. Giant cells are observed around the veins and in the bleeding areas. Consist of spindle-shaped stromal cells (fibroblasts or myofibroblasts) loosely organized in a fibrous stroma. Foci of haemorrhage with hemosiderin pigment along with recently shaped osteoid or bone is noticed in the stroma. CGCG morphologically includes osteoclast-like cells. The osteoclast-like multinucleate giant cells become from the fusion of the mononuclear component, and the mononuclear cells can be the osteoclast precursors.[2]

All CGCG cases are firstly treated by local excision or curettage. Whereas, applications of non-surgical methods have been suggested in the literature, such as intra-lesional corticosteroid injections, systemic administration of calcitonin and administration of alfa-interferon. Furthermore, en-bloc resection has been recommended for the removal of more aggressive CGCG and for providing the lowest recurrence rate. Laser or cryosurgery has been recommended in different reports. [6] Recurrence rates have been informed to range between 11% and 49%. This occurs because of the large recurrence interval because non-aggressive and aggressive forms are evaluated together. The recurrence rate is higher in the aggressive form CGCG, while less recurrence is seen in smaller and non-aggressive forms. [10]

Conclusion

Consequently, there were unknown traumatic factor and systemic disease in our case. Postpartum period and hormone-depending could be probable etiologic factors. In case of large lesions, it also results in large tissue defects. Losses of teeth and/or germs in young patients are often unavoidable consequences [3]. In this case large lesion was removed without damaging to teeth.

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