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CASE REPORT

Combined management of large aggressive central giant cell granuloma of the mandible: A case report



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Abstract The aim of this study is to report a case of large aggressive central giant cell granuloma (CGCG) of the mandible treated with corticosteroids and surgery. A 22-year-old male presented with painless progressive swelling in the chin region. Biopsy confirmed the diagnosis of CGCG. Management of the lesion was carried out in 3 phases. Phase-1 comprised of intra-lesional corticosteroids, phase-2 comprised of surgical management and phase-3 consisted of post-surgical intra-lesional corticosteroid. In this extensive case, although intra-lesional corticosteroid was given pre-operatively, there was no evidence of a reduction in size of the lesion both clinically and radio-graphically. This case suggests that injection of a low dose of corticosteroids pre-operatively may not be effective in such large aggressive CGCGs. Nevertheless, combined medical and surgical management is always advantageous for extensive aggressive lesions in order to reduce the size and thus minimize the need for mutilating bone resections and loss of teeth that ultimately result in functional and esthetic defects.

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1. Introduction

Central giant cell granuloma (CGCG) is a benign tumor that is found exclusively in the maxilla and mandible. The first description of this tumor was presented by Jaffe and recommended

surgical management for these lesions.¹ The etiology of this lesion is unknown but it is assumed to occur by trauma or inflammation.² Its occasional aggressive behavior results in extensive destruction of the region affected. Radiographic presentation of these lesions is not pathognomonic and features vary from well- or ill-defined unilocular to multilocular expansile radiolucencies with or without destruction of the cortical plates.

The oldest and conventional management of these tumors is by curettage.³ En-bloc resection is also a well-known modality of treatment which results in lowest recurrence rates and has been resorted as treatment of choice for locally aggressive CGCGs.⁴ However, aggressive surgery of the jaw necessitates major reconstruction leading to morbidity in terms of function and esthetics.

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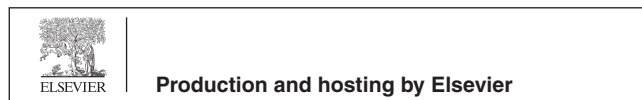




Figure 1 Pre-op orthopantomogram (OPG).

2. Case report

A 22-year-old male presented to our department, complaining of a painless swelling in the chin region. It was non-tender with progressive growth since one year. There was history of trauma 15 years back. The medical history was non-contributory. On extra-oral clinical examination, a large, hard, smooth and non-tender swelling was evident extending between two angles of the mandible with no evidence of lymphadenopathy. Intra-oral examination revealed a hard, non-tender vestibular swelling extending from the mandibular right molar to the left molar region with no signs of discharge. Panoramic radiography revealed large multilocular radiolucency extending between angles of the mandible (Fig. 1). Computerized tomography (CT) showed an extensive multilocular radiolucent lesion with areas of cortical bone expansion, erosion and perforations between angles of the mandible (Figs. 2 and 3). Endocrinology assessment was done to rule out hyperparathyroidism. Assays of alkaline phosphatase, parathyroid hormone, calcium and phosphorus were within the normal



Figure 3 Pre-op CT [axial section].



Figure 2 Pre-op 3D CT.

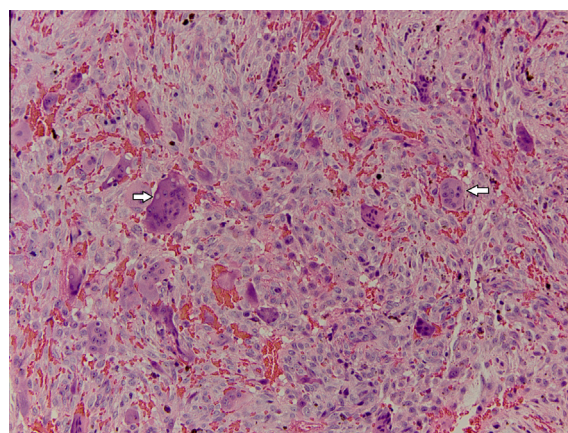


Figure 4 Photomicrograph at 20× of hematoxylin- and eosin-stained slides showing multinucleated giant cells (arrows).

range. An incisional biopsy confirmed the diagnosis of CGCG. This was considered as an aggressive form of CGCG based on clinical behavior and histopathologic findings (Fig. 4).

After overall consideration of the patient's age and morbidity after the surgical management of the lesion, the options of less invasive combined therapy were discussed with the patient.

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