Central Giant Cell Granuloma of Mandible : A Case Report

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Abstract

A 30-year old male reported with central giant cell granuloma of mandible, the entire lesion was excised and curetted keeping the lower border of the mandible intact. The postoperative period was uneventful. The recall visit after 6 months showed good signs of healing and new bone formation especially at the lower border and angle of mandible which were badly affected.

Keywords: Central Giant Cell Granuloma, Curettage, Mandible

Introduction

Central giant cell granuloma (CGCG) was defined by WHO[1,4] and described by Jaffe[2] in 1953. This lesion is more common in the mandible than the maxilla.[4,6,7] The pathogenesis of CGCG is not completely understood.[1,4] Lesions show aggressive growth, pain, paraesthesiae, massive swelling, root resorption, cortical perforation.[1,4-6] Non-aggressive and aggressive lesions can be differentiated by clinical signs, symptoms and radiological features.[4,5] Early diagnosis there is no strict criteria in an individual patient to differentiate between the 2 subforms. The histomorphometric analysis proved a significant increase in large giant cells, fractional surface area and mitotic activity in aggressive CGCG lesions.[1,3] Immuno-histologic investigation (Ki-67 and p53 stain) revealed no significant differences.[1] The treatment of choice is conservative excision by curettage.[4,7] For aggressive lesions, supplementary treatment with calcitonin gives good results.[4]

Case Report

A 30-year old male reported with the complaint of facial swelling of the right side. The patient gave a history of extraction of right lower posterior teeth a few months previously due to their mobility. The swelling had slowly increased in size for the last 9-12 months and extended posteriorly from right first mandibular premolar to the ascending ramus. The growth was firm and non-tender with expansion of buccal cortical plate. The oral hygiene was fair and rest of the dentition was normal. Radiologically, Orthopanto-mograph (OPG) showed a well defined radiolucent lesion extending from distal aspect of the first premolar to the posterior border of the ramus on right side (Fig. 1) which revealed central giant cell granuloma on biopsy. All routine hematological investigations, serum calcium and alkaline phosphatase were found to be within normal limits.

At operation, intra-orally, lesion extended superoinferiorly from the lower border of mandible to the upper one third of the ramus of the mandible. The lower border of mandible was quite thin and expanded inferiorly. Superiorly, the residual alveolar ridge was expanded (Fig. 2). The entire lesion was excised and curetted keeping the lower border of the mandible intact. The postoperative period was uneventful. The recall visit after 6 months showed good signs of healing (Fig. 3) and new bone formation (Fig. 4) especially at the lower border and angle of mandible which were badly affected. The tissue sent for histopathological examination (Fig. 5) confirmed the diagnosis of central giant cell granuloma.

Discussion

In 1953, Jaffe gave the term "giant cell reparative granuloma" and distinguished this lesion from the giant cell tumor.[2,4] These lesions were not true neoplasms and represented a local reparative reaction.[2,4,6,7] WHO defined as an intraosseous lesion consisting of cellular fibrous tissue containing multiple foci of hemorrhage, aggregations of multinucleated giant cells, occasionally, trabeculae of woven bone.[1,4] Mandible is affected more than the maxilla[4,6,7] and can be confined to the tooth-bearing areas of the jaws.[4,7] It may occur with a rapid onset of pain, parasthesia, root resorption, and tooth displacement.[1,4-7] This has capacity to expand or destroy surrounding bone, resulting in facial asymmetry.[7] Chuong et al. classified CGCG into aggressive and non-aggressive lesions.[5]

Curettage is the recommended simple treatment of choice for this lesion.[4,6,7] In our case Curettage was done and patient is disease free. Patient is followed for 6 months and now we are planning for prosthetic reconstruction.

Conclusion

Curettage can be simple treatment plan and but long term follow up is required.

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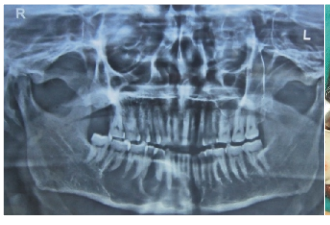

Fig. 1 Preoperative OPG

Fig. 2 - Preoperative lesion

Fig. 3 Post operative site

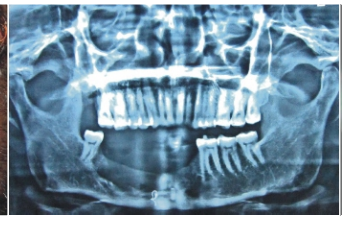

Fig. 4 Post operative OPG

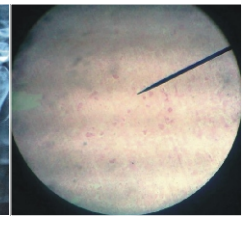

Fig. 5- Histopathology slide of CGCG

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