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Unusual Presentation of Giant Cell Lesion

Abstract

The lesions that affect the jaws which typically display multinucleated giant cells as one of their histopathologic components are grouped as giant cell lesions. Presentation of lesion, age, radiographic appearance, histopathologic features, biochemical analysis and follow up of patient helps to distinguish between giant cell granuloma, giant cell tumour of bone, aneurysm all bone cyst, cherubim and brown tumor of hyperparathyrodism. Giant cell granuloma are slow growing, mostly painless, usually monolocular or multilocular with well-defined margins. Here is a 5years old child presenting with features of straw coloured aspirate, mitotic figures, inflammatory reaction and egg shell crackling as in cyst and tumor.

Key Words

Giant cell lesion; maxillofacial; histopathological features

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INTRODUCTION

The maxilla and mandible like other bones can undergo pathological changes both neoplastic and reactive. In the process of osseous repair, along with deposition there is destruction of bone by specialised cells which develop from connective tissue for specific purpose of resorbing bone. These cells are large multinucleated giant cells resembling osteoclasts which characterise certain lesions known as giant cell lesions. These are benign, usually slow growing and a symptomatic, although rapidly expanding and intraosseous. Giant cell tumor predominates in female and is more common in mandible anterior to first molar. We report an unusual presenation of giant cell lesion giving overlapping features straw colour aspirate, egg shell cracking, typical mitotic figures and inflammatory reaction as in cyst and tumor.

CASE REPORT

A five year old boy was referred to the maxillofacial department of Indus hospital with complaint of slowly growing swelling in the left parotid region extending to lower border of mandible past one year. History revealed that swelling started as a small one and progressively increased to present size. It was not associated with any pain, no neurological disorder or no fever or loss of apetite.

Though the child looked small for his age, his built was like a 3 year old. There was no similar swelling seen in any other part of the body. Radiographs were taken of long bones but no such tumor was found. Patient was systematically healthy except for low haemoglobin 9. On extra oral examination diffuse swelling was seen on left side of mandible extending from preauricular area to midline (horizontally) and left zygomatic arch to lower border of mandible. The swelling measured about 4x3 cms. The surface of the swelling was smooth and firm/hard to palpate with crackling sound in between. No nodes were palpable as submanibular area was involved in the lesion. Introrally the lingual alveolar seemed uninvolved or no expansion was seen. Dentition was normal and oral opening was satisfactory. CT scan revealed a large unilocular radiolucent lesion with well-defined margins with the interspersed septae within the lesion on left side mandible. FNAC revealed a giant cell lesion. The case was posted for surgery under GA extra oral submandibular incision was taken. Enucleation with curettage was done with the removal of buccal cortical bone surrounding the lesion peripherally. The superior surface of lesion seemed fragile and could be easily removed. There was a hollow space found due to expansion of buccal cortical plate with soft tissue (lining) inside. Straw coloured fluid was aspirated and the entire lining removed with complete removal of superficial fragile bone. Healthy bone was

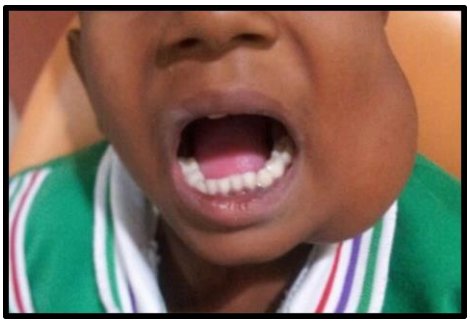

Fig. 1: Preoperative lesion

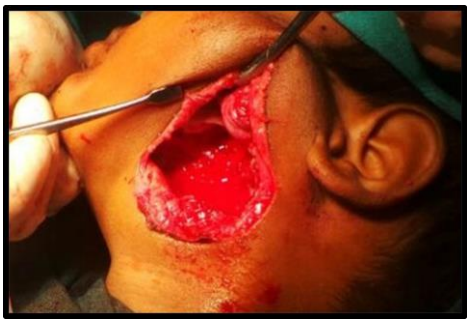

Fig. 2: Intraoperative

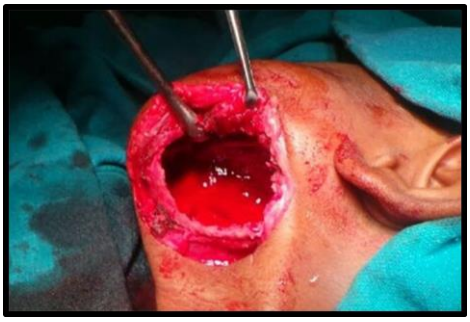

Fig. 3: Intraoperative

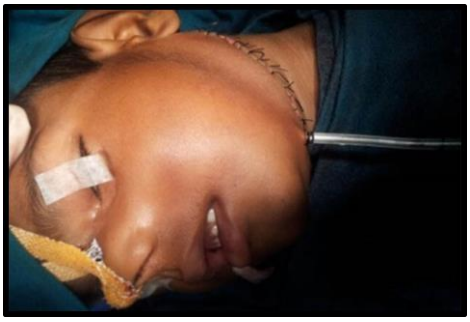

Fig. 4: Immediately after surgery

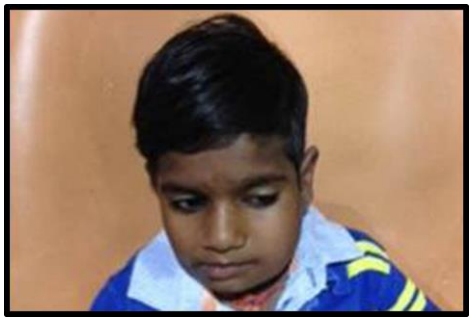

Fig. 5: 1 week postoperative

preserved below the fragile bone and lingual cortical bone was kept intact. A drain was put and surgical site was closed in layers. No recurrence seen 2 years post op. The serum chemistry of calcium, phosphorous, parathyroid hormone was normal, there by excluding the possibility of hyperthyroidism and brown tumor. Histopathological examination of biopsied specimen revealed connective tissue made up of mature collagen fibres, fibroblasts, typical mitotic figers, inflammatory reaction and showing numerous multinucleate giant cells with foci of osseous structures with no malignant cells.

DISCUSSION

Giant cell lesions include neoplasias, hyperplasias and dysphasias. Distinction between these entities is difficult to make by means of microscope alone. Giant cells lesions account for 6.6% lesions of the jaw. These are either endosteal or periodsteal. Though rare in occurrence in the jaw these lesions have been a source of debate. Majority designated as giant cell reparative granuloma are benign, slow growing and have favourable prognosis. It is essential to differentiate these lesions which represent a reparative inflammatory process from aggressive giant cell tumor of jaw. Radiographic appearance of giant cell lesion is variable. Usually unilocular or multilocular with well or I'll defined margins showing variable expansion and destruction of the cortical plates. Root resorption and cortical perforation with loss of dental lamina dura may occur. Microscopically there is presence of few to many multinucleated giant cells in a background of ovoid to spindle shaped mesenchymal cells in variable amount of hemosiderin. Laboratory findings are necessary to reach to definitive diagnosis. Blood serum and urine tests for calcium and phosphorous values are important in excluding the diagnosis of giant cell lesion of hyperparathyroidism. For early diagnosis and management microscopic findings must be correlated with clinical, radiographic and laboratory information.

CONCLUSION

Having the overlapping features we distinguished giant cell granuloma from aneurysmal bone cyst and giant cell tumor on basis of no aspiration of blood, slow growing lesion with no recurrence of lesion in 5 years, presentation of lesion at 5 years with unaltered mental health, presence of hemosiderin, volume and type of giant cells and unaltered serum levels of calcium and phosphorous.

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