CASE REPORT

Giant cell reparative granuloma of parotid region – A case report

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Abstract Giant cell reparative granuloma is a benign neoplastic lesion primarily affecting mandible and maxilla. Giant cell reparative granuloma of parotid region has never been reported in the literature. We report a case of giant cell reparative granuloma of parotid region infiltrating the whole of whole parotid gland, probably arising from the zygomatic bone. Total conservative parotidectomy was done to completely excise the lesion. Histological examination revealed multinucleate giant cells with areas of fibrosis and hemosiderin deposits surrounded by normal parotid gland tissue.

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1. Introduction

Giant cell reparative granuloma is an uncommon benign lesion. The lesion was first described by Jaffe1 to describe benign non-neoplastic lesion affecting primarily mandible and maxilla. The lesion is characterized by proliferation of fibroblast and multinucleate giant cells in densely packed stroma. Cases have been described in unusual sites like nasal septum, temporal bone, cranial vault, Paranasal sinus, Larynx, and hyoid bone. We present a case of giant cell reparative granuloma of parotid region arising from the zygomatic bone, a site that has not been reported previously in the literature.

2. Case report

A 30 yr old woman presented to the department of Otolaryngology and Head and Neck Surgery, P.G.I.M.E.R, Chandigarh, India, with one year history of slowly enlarging swelling over the right parotid region. There was no previous history of trauma to the face. The swelling was unrelated to the intake of meals. There was no history of facial asymmetry. Physical examination revealed 3 × 4 cm well defined, non tender, non fluctuant swelling over the right parotid region. The swelling was hard in consistency, overlying skin was normal. Stenson duct orifice was normal and no calculi felt...
in the parotid duct on palpation. There was no cervical lymphadenopathy or thyromegaly (Fig. 1).

Fine needle aspiration cytology of the parotid gland showed multinucleate giant cells and group of cells with round to oval nuclei. A diagnosis of giant cell lesion of parotid gland was made. Computed tomography scan revealed homogenous soft tissue density lesion infiltrating the superficial lobe of parotid gland (Fig. 2).

Total conservative parotidectomy was done to excise the tumor infiltrating the parotid gland. Tumor was infiltrating the superficial lobe and upper part of deep lobe of parotid gland. Tumor was also eroding the zygomatic bone and adjacent glenoid fossa which was curetted. The zygomatic arch was the site of origin of tumor.

Histopathology showed tumor with cells arranged in sheets and nodules. There was admixture of multinucleate giant cells along with stromal cells. Hemosiderin deposits were seen along with areas of fibrosis. The tumor was surrounded by normal parotid glandular tissue. Features were consistent with Giant cell reparative granuloma of parotid gland (Fig. 3).

3. Discussion

The term giant cell reparative granuloma was first coined by Jaffe\(^1\) to describe benign reactive interosseous lesion primarily involving jaw bones. This lesion mainly occurs in children and young adults. Giant cell reparative granuloma affects commonly children and adults and may occur at any age but is most commonly seen in the third decade of life.\(^9\) It occurs more commonly in females.\(^9\) Cases have been described at unusual sites like temporal bone,\(^3\) Cranial vault,\(^4\) Concha bullosa,\(^5\) paranasal sinus,\(^5\) Hyoid bone,\(^7\) and cricoid cartilage.\(^8\) On reviewing the literature, we could not find any report of giant cell reparative granuloma involving parotid gland. We believe this to be the first reported case of giant cell reparative granuloma involving parotid gland possibly arising from zygomatic bone and glenoid fossa.

The cause of giant cell reparative granuloma is controversial. Jaffe\(^1\) suggested that lesion could be hyperplastic reparative response to trauma. However, previous history of trauma may not be elicited in all cases.\(^1\) Hirchl and Kalz proposed chronic inflammation in various forms may give rise to local micro hemorrhage which may lead to reactive proliferative process.\(^3\)

Histologically giant cell reparative granuloma is characterized by fibrous connective tissue background with patchy distribution of multinucleate osteoclast like giant cells with areas of hemorrhage and proliferating cells which include fibroblasts, myofibroblasts and inflammatory mononuclear cells. Typically lesion is vascular with osteoid new bone formation. Pathologic differential diagnosis includes giant cell tumor, aneurysmal bone cyst, brown tumor of hyperparathyroidism, osteoblastoma, chondroblastoma, foreign body reaction and non ossifying fibroma. These lesions are difficult to differentiate on fine needle aspiration cytology and histopathology, emphasizing a need for careful and thorough clinical, pathological and radiological correlation. The clinical behavior of giant cell granuloma varies from
slowly growing asymptomatic swelling to an aggressive lesion.9

Surgical excision or curettage is the treatment of choice for giant cell reparative granuloma.9 Recurrence after surgery is 4–20%.10 Other treatment options include, radiotherapy, daily systemic dose of calcitonin,11 and intralesional injection of corticosteroids.12 Radiotherapy is recommended for non-resectable giant cell reparative granuloma, though some cases were found to be radio resistant. There is also a risk of sarcomatous degeneration.13

4. Conclusions

Giant cell reparative granuloma of parotid gland has never been reported in the literature. Typically lesion is vascular with osteoid new bone formation. Surgery is mainstay of treatment.

References