

Brown Tumor of maxilla mimicking carcinoma upper alveolus: case report**Dr. Shaji Thomas¹, Dr. Sharath Krishnan², Dr. Philip John K³, Dr. Santhosh Kumar N⁴**¹Additional Professor, Department of Surgical Oncology, Regional Cancer Center, Trivandrum, India²Senior Resident, Department of Surgical Oncology, Regional Cancer Center, Trivandrum, India³Fellow, Department of Head & Neck Surgery, Regional Cancer Center, Trivandrum, India⁴Department of Surgical Oncology, Regional Cancer Center, Trivandrum, India***Corresponding author**

Dr. Sharath Krishnan

Email: sharathkrishnan@gmail.com

Abstract: Hyperparathyroidism may rarely present as Brown tumor of maxilla, which at times is difficult to differentiate from malignancy. In situations, where multiple biopsies are inconclusive for malignancy, a high index of suspicion should be there to rule out hyperparathyroidism. Morbid surgery of maxilla is not to be done in such a scenario.**Keywords:** Brown tumour, parathyroid adenoma, carcinoma upper alveolus.

INTRODUCTION

Brown tumor is a rare and benign manifestation of hyperparathyroidism presenting as a lytic bone lesion. It mimics malignancy and other giant cell lesions of the bone. However, it is differentiated from other lesions based on history, biochemical tests and pathologic features. We herein present a case of a right parathyroid adenoma with brown tumor of left upper alveolus mimicking carcinoma upper alveolus.

CASE REPORT

A 54-year-old lady presented to our clinic with a history of a swelling in the left alveolar region of 3 months duration. On examination of oral cavity, noticed a swelling over the left upper alveolus in the region of the 1st premolar measuring 2x2.5cm (Fig 1). Computer Tomography (CT) showed a focal expansile osteolytic lesion arising from the inferior wall of left maxillary sinus with thinning of cortex and areas of cortical defects (Fig 2). Biopsy of the lesion was done twice which showed giant cell granuloma.



Fig-1: Swelling seen over the left upper alveolus mimicking carcinoma before parathyroid surgery, immediate after surgery (1 month) and at 1 year follow up

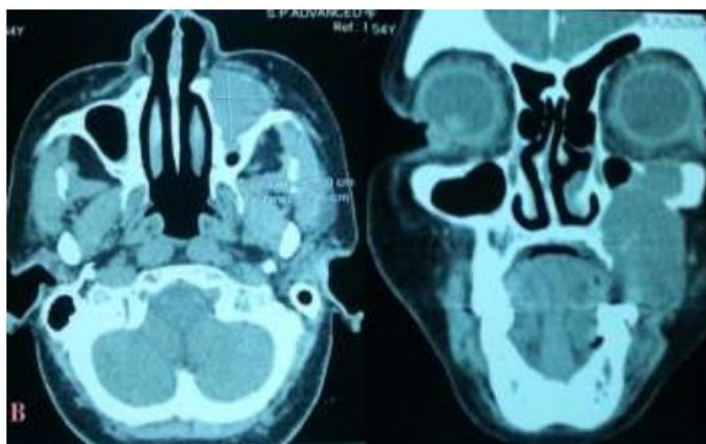


Fig-2: Computer Tomography of head showing focal expansile osteolytic lesion arising from the inferior wall of left maxillary sinus with thinning of cortex and areas of cortical defects

On routine pre-operative workup she was detected to have serum calcium of 12.9 mg/dl. Her serum alkaline phosphatase was 475 U/L. Chest X-ray showed an irregular lytic lesion over the left 5th rib. With a suspicion of hyperparathyroidism her serum parathormone was sent which was reported as 800.7 pg/ml and serum Acid phosphatase of 110 U/L. USG of the neck showed a well defined, heterogeneously hypo echoic lesion measuring 30 x 24 mm, with increased vascularity, noted in relation to the right lower pole of

thyroid. There were also multiple hypo echoic nodules within both lobes of the thyroid gland.

CT showed a 4 x 4 cm lesion in the lower neck inferior to lower pole of thyroid (Fig 3). USG guided fine needle aspiration from the lesion was compatible with a parathyroid adenoma. An USG abdomen was also done, which showed a 10mm calculus in the upper calyx of right kidney.

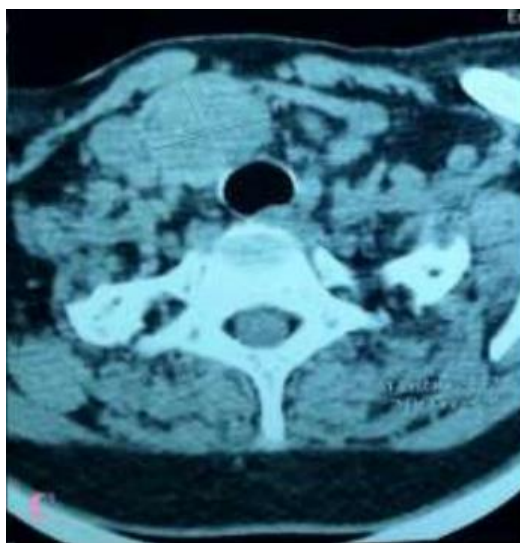


Fig-3: Computer Tomography showing lesion in the lower neck inferior to lower pole of thyroid suggestive of parathyroid lesion

She underwent total thyroidectomy & right parathyroid adenoma excision. During surgery a 4 x 4 cm, blue colored lesion was visualized in the region of the right lower parathyroid. The right upper parathyroid was also enlarged. Both parathyroids on the contralateral side were preserved. Post operative histopathology confirmed the presence of a parathyroid adenoma. Post discharge the patient was kept on follow up, which showed a regression of the maxillary lesion. Follow up at 1 year showed near regression of alveolar lesion (Fig 1).

DISCUSSION

Bone involvement is a relatively late manifestation of primary hyperparathyroidism from a parathyroid adenoma. Brown tumor is a misnomer, because it's not a true neoplasm. Brown tumours are so called because of their "brown" appearance due to haemosiderin deposition associated with hemorrhage within the bony matrix by the increased osteoclastic activity. Brown tumor usually occurs as a localized bone cyst within the facial bones, pelvis, ribs and femur. Among the facial bones, mandible is more

commonly involved than the maxilla [1]. The usual presentation is with a pathological swelling. This lesion can easily be confused with a malignancy, metastasis or a bone cyst.

Radio graphically, the lesion appears as well defined unilocular or multilocular radiolucency causing cortical bone expansion and often thinning of the cortex. The density of maxilla is decreased due to generalized demineralization of the medullary bones along with changes in the trabecular pattern giving a mixed radiopaque - radiolucent appearance [1]. Histopathologically, brown tumor reveals multinucleated giant cells in a background of spindle cell proliferation along with a large amount of hemosiderin deposition, vascularity and hemorrhage giving brown appearance to this lesion [1, 2].

Brown tumor can mimic malignancy and other giant cell lesions and it can be distinguished from the latter based upon the clinical history and biochemical profile of the patient indicating hyperparathyroidism [1]. To differentiate it from a malignancy of the maxilla a high index of clinical suspicion and sound judgment is required. The usual difficulty is due to its rare presentation, and clinical similarity with an expansile maxillary or mandibular malignancy. Other differentials to be included are cherubism, aneurysmal bone cyst, Paget's disease, Langerhans cell histiocytosis, osteosarcoma and osteomyelitis [3]. Due to overlapping clinical and radiological features, patients presenting in head and neck surgery department with progressively enlarging, lesions of the maxilla or mandible with inconclusive pathology should undergo routine biochemical assays to rule out hyperparathyroidism.

REFERENCES

1. Triantafillidou K, Zouloumis L, Karakinaris G, Kalimeras E, Iordanidis F; Brown tumors of the jaws associated with primary or secondary hyperparathyroidism. A clinical study and review of the literature. *Am J Otolaryngol.*, 2006; 27:281-6.
2. Soundarya N, Sharada P, Prakash N, Pradeep G; Bilateral maxillary brown tumors in a patient with primary hyperparathyroidism: Report of a rare entity and review of literature. *J Oral Maxillofac Pathol.*, 2011; 15:56-9.
3. Selvi F, Cakarer S, Tanakol R, Guler SD, Keskin C; Brown tumour of the maxilla and mandible: A rare complication of tertiary hyperparathyroidism. *Dentomaxillofac Radiol.*, 2009; 38:53-8.