

IMAGES IN ENDOCRINOLOGY

Brown tumours at different sites in primary hyperparathyroidism

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Figure 1: X-ray skull lateral view showing Brown tumor in the mandible.



Figure 2: X-ray Chest PA view showing right sided Pleural Effusion. Radiograph of the humerus depicts a brown tumour, osseous expansion and lucency of the humerus. Brown tumors can have varied appearances



Figure 3: X-ray Chest PA view showing right sided Pleural Effusion. Subperiosteal resorption, brown tumour metacarpal bone and acro-osteolysis in x-ray hand.



Figure 4: Radiograph of tibia showing a brown tumour and osseous expansion of the bone.



Figure 5: Clinical photograph of leg showing brown tumour and osseous expansion of the bone.

Brown tumors are seen in severe untreated primary and secondary hyperparathyroidism. They are infrequently seen today due to early diagnosis and management. A classical description of clinical presentation and radiographic images of a patient presenting with brown tumor secondary to an atypical parathyroid adenoma is presented.

A 65 year old lady presented with pain and progressive swelling in her left arm for one year. On examination there was a mid arm swelling which was non tender and hard. The overlying skin was normal. Investigations showed mild anemia and normal renal function with hypercalcemia, hypophosphatemia and elevated serum alkaline phosphatase (serum calcium 16.4 mg/dL, and serum alkaline phosphatase 1004 U/L.) The intact parathormone (PTH) was 1841 pg/ml. A paraneoplastic, multiple endocrine neoplasia and myeloma screen was negative. 24 hour urinary calcium was high. A radiological skeletal survey showed pathological fracture of the mid shaft of the left humerus and brown tumor in the axial and appendicular skeleton. Ultrasound and subsequent magnetic resonance imaging of the neck were consistent with adenoma. Primary hyperparathyroidism (PHPT) with brown tumor and pathological fracture of the left humerus was diagnosed and the patient underwent right inferior parathyroidectomy. Histology of the parathyroid gland was suggestive of atypical parathyroid adenoma. The patient was supplemented with calcium, vitamin D3 post operatively and recovered satisfactorily.

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