ORIGINAL RESEARCH PAPER

General Surgery

PARATHYROID ADENOMA: A BENIGN PRESENTATION WITH COMPLETE REMISSION

KEY WORDS: Parathyroid, Adenoma, Hyperparathyroidism

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ABSTRACT

A 33 year old male presented with complaints of abdominal and back pain, dyspnoea and multiple swellings over his hand. Clinical examination was unremarkable except for decreased air entry into the right lobe. Radiological imaging revealed bilateral nephrocalcinosis, pleural effusion on the right side and Mafucci syndrome of left hand. Ultrasound Neck and MIBI scan favoured Parathyroid Adenoma and laboratory findings were conclusive of hyperparathyroidism and hypercalcemia. Hence we proceeded with Left Inferior Parathyroidectomy following which patients' condition improved symptomatically and a decrease in Serum Calcium and PTH were observed.

BACKGROUND

Primary hyperparathyroidism is defined as hypercalcemia in the presence of an unsuppressed and elevated PTH level. Adenoma, Hyperplasia and carcinoma are the three conditions causing primary HPT with adenoma being the most common cause. It is mostly sporadic but sometimes associated with familial syndromes like MEN 1, MEN2A, MEN4, HPT - Jaw Tumor syndrome (HPT – JT)

Case Presentation

A 33-year-old male presented to our outpatient department with history of altered bowel habits, 2 episodes of acute abdominal pain which relieved on medication and multiple swellings over his left hand (Fig. 1). He gives history of intermittent back pain and dyspnoea. He denies any psychiatric or urinary symptoms.

Diagnostic Parameters

On clinical assessment Neck and Abdomen findings were unremarkable however respiratory examination revealed-decreased air entry in the right lower lobe. Multiple swellings were noted in the left hand. Diagnostic workup revealed high intact PTH (971.60pg/ml) and Serum Calcium (13.2mg/dL), low Vitamin D (11.98ng/mL). X Ray Chest showed right pleural effusion(Fig. 2). CT Thorax showed expansile lytic lesion in the left 6th rib. Ultrasound Abdomen showed features of bilateral medullary nephrocalcinosis. Xray of Hand showed features suggestive of multiple endochondromas (Maffucci Syndrome)(Fig. 3). Ultrasound Neck showed a hypoechoic lesion with rim of calcification (1 x 0.7 x 1.9cm) posterolateral to the left lobe of thyroid suggestive of Parathyroid Adenoma(Fig.4) PET CT showed left inferior parathyroid adenoma and a probable Brown's tumor of left 6th rib. Technetium 99m Sestamibi scan showed parathyroid adenoma. Diagnostic tapping of pleural effusion showed mesothelial cells, macrophages, calcium 12.9, protein 6 and no malignant cells.

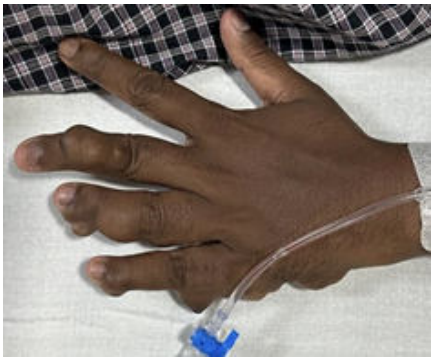

Fig 1, Left Hand

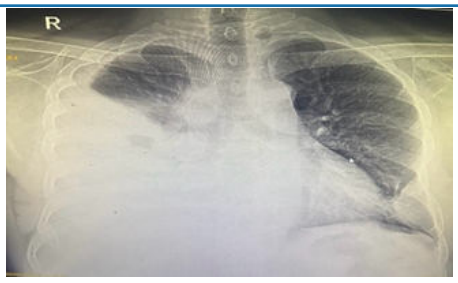

Fig 2, X Ray Chest

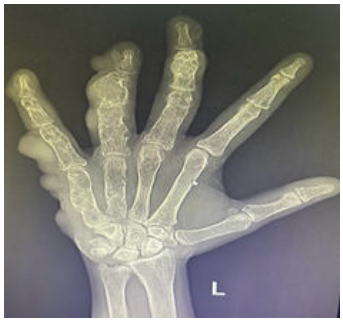

Fig 3, X Ray Left Hand

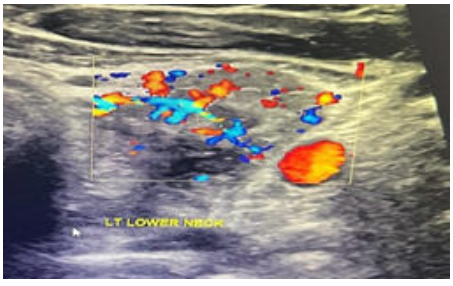

Fig 4, USG Neck

Treatment:

Patient underwent Left inferior parathyroidectomy, specimen of size 3x4cm excised in toto and sent for frozen biopsy which reported as parathyroid lesion (Fig. 5). Baseline Serum PTH 971pg/ml dropped to 135pg/ml 10minutes post surgical removal. Serial monitoring of Serum Calcium showed a gradual decrease to 9.3mg/dL on postoperative day 6. Histopathological examination showed a fairly circumscribed encapsulated neoplasm composed of nests of tumor cells separated by dense fibrous bands suggestive of Parathyroid Adeonoma. On follow up, patient improved symptomatically and serum calcium, PTH and Vitamin D were consistent with surgical cure.

Fig 5, Parathyroid adenoma

DISCUSSION:

An adenoma is identified by comparison with at least one normal gland, and primary chief cell hyperplasia is diagnosed by identifying abnormal histological features in at least three glands. The first manifestation in many patients is parathyroid gland-occupying lesions found during ultrasound examination of the neck(2). It is more common for these patients to have hypercalcemia, than parathyroid hormone alterations. Bone manifestations generally present late in the progress of hyperparathyroidism and fractures of the long bone, clavicle, ribs and pelvis are common (1). Thus despite the absence of neck swelling, parathyroid pathology should be considered for a prompt diagnosis.

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