CASE REPORT

Focused Parathyroidectomy (minimal invasive) For Primary Hyperparathyroidism With Left Superior Gland Parathyroid Adenoma

Ilias Juneja¹, Jatin Bhatt², Fazal Patiwala³*, Bhavesh Vaishnani⁴

1²³M.S., ³MBBS, P.D.U. Medical college and hospital, Rajkot, India

Key Words: primary hyperparathyroidism, parathyroid adenoma, sestaMIBI scan, on table PTH assay, focused parathyroidectomy

INTRODUCTION
It is a case of parathyroid adenoma of left superior parathyroid gland with hyperparathyroidism, high serum calcium and, with recurrent renal stones and medullary nephrocalcinosis. It is a rare clinical presentation. This case also highlights use of sestaMIBI scan in locating parathyroid adenoma preoperatively and its differentiation from parathyroid hyperplasia and use of on table PTH assay to guide the success of surgery.

CASE REPORT
A 65 year old male patient presented with complains of nausea, abdominal pain, back pain, depression, recurrent renal stones, lethargy and weaknesses since 3 months. Past history was suggestive of hypertension, operated for left renal (PCNL) before 6 months with recurrent bilateral renal stones and operated for open cholecystectomy for symptomatic gallbladder calculi before 2 yrs. Other examination- mild wasting of limb muscles. Local examination- no palpable neck swelling. CBC/RBS/RFT/CXR/ECG- normal USG abdomen- bilateral renal stones USG neck- 1.4x0.9 cm left parathyroid adenoma S.PTH - 194 pg/ml (very high) (normal- 10-65 pg/ml)

PARATHYROID SCAN (99mTc-sestaMIBI)- Left superior gland parathyroid adenoma.

MANAGEMENT
- Left sided superior parathyroidectomy done (minimal invasive technique or focused parathyroidectomy)
- On table PTH assay was done which showed more than 50% reduction in PTH level indicating success of surgery. (pre incision level- 186 pg/ml) (10 min. after excision of adenoma- 67 pg/ml)
- Post op: pt was stable. His calcium, electrolytes and PTH level normalise.
- Discharged on 2nd post operative day (POD)
DISCUSSION
A parathyroid adenoma is a benign tumor of the parathyroid gland. It generally causes primary hyperparathyroidism. Primary hyperparathyroidism is a common condition caused by single or multiple parathyroid lesions. It is rare below the age of 50 years but rises thereafter, particularly in women; surgery offers the only definitive treatment. Presents with stones, bones, groans, and psychic overtones referring to the presence of kidney stones, hypercalcemia, constipation and peptic ulcers, and depression. Diagnosis is done by serum calcium (high) serum parathyroid (very high) levels. A specific test for parathyroid adenoma is **sestaMIBI** scan. It reveals the presence and location of adenoma and helps differentiate from multiglandular disease or parathyroid hyperplasia, in both cases line of treatment and surgeries differ. Treatment is surgical removal of affected gland by minimal invasive techniques after pinpoint location of adenoma by sestaMIBI scan. Primary hyperparathyroidism has traditionally been managed by bilateral neck exploration and identification of the four parathyroid glands with a success rate of more than 95% when performed by experienced endocrine surgeons. The traditional surgical approach with the visualization of all parathyroid glands and the resection of apparently enlarged glands has been increasingly replaced by minimally invasive (unilateral) surgical procedures, supported by preoperative imaging (sestaMIBI scan) and rapid intraoperative parathyroid hormone (PTH) assay measurement (on table PTH assay), avoiding unnecessary exploration of other glands and morbidity associated with it. However, 5% to 20% of patients with primary hyperparathyroidism have multiglandular disease and require bilateral neck exploration. PTH monitoring during the surgical procedure can confirm the removal of all hyperfunctioning parathyroid tissue if it falls by 50% or more, as the half-life of PTH is approximately 5 min. An insufficient decrease in PTH indicates persisting primary hyperparathyroidism, leading to more extended (bilateral) exploration within the same session.

REFERENCES
2. Grant CS, Thompson G, Farley D, van Heerden J. Primary hyperparathyroidism surgical management since the introduction of minimally invasive parathyroidectomy.
5. Intraoperative Parathyroid Hormone Assay During Focused Parathyroidectomy *BMC Surg*. 2013;13(36)