



## PARATHYROID ADENOIDECTOMY – 3 YEAR INSTITUTIONAL EXPERIENCE

<b>Sourabh Padmanabhan*</b>	M.S ENT, Fellowship In Head And Neck Oncology, Associate Consultant, VPS Lakeshore Hospital, Kochi*Corresponding Author
<b>Gourab Mitra</b>	MDS, Fellow Head And Neck Oncology, Mazumdar Shaw Medical Centre Bangalore
<b>Snehita A</b>	MDS, Fellow Oral Oncology, Mazumdar Shaw Medical Centre Bangalore

### KEYWORDS :

#### INTRODUCTION:H:

Primary hyperparathyroidism (PPT) is a common endocrine disorder resulting from excessive production of parathyroid hormone and elevated serum calcium levels. It is typically caused by a single gland adenoma (85-90%), multi-gland disorder (10-15%), or rarely, parathyroid carcinoma (5%).

Preoperative localization is typically achieved through ultrasonography (USG) (73%) and 99 Technetium (TC) Sestamibi parathyroid scan (82%). Surgery remains the definitive treatment for primary hyperparathyroidism. Minimally invasive parathyroidectomy (MIP) has shown superior outcomes in terms of reduced postoperative pain, less scarring, lower risk of recurrent laryngeal nerve injury, earlier discharge, and decreased incidence of postoperative hypoparathyroidism.

#### METHODS:

We analyzed the data from a series of consecutive, non-randomized patients who underwent parathyroidectomy for parathyroid adenoma at our hospital. Our objective was to evaluate the indications, the role of preoperative localization methods, intraoperative PTH level changes, and postoperative recovery outcomes in 65 patients treated at Mazumdar Shaw Medical Centre, Bangalore, between January 2019 and November 2023.

All patients underwent preoperative localization using either a Sestamibi scan or preoperative ultrasound (USG). We recorded patient demographics, duration of surgery, intraoperative PTH level changes, and length of postoperative hospital stay. Postoperative PTH and calcium levels were monitored following surgery. Data were collected using IBM SPSS version 20, and frequencies were calculated.

In total, 65 patients were included in the study, with a median age of 46 years (interquartile range 35-57). All patients were diagnosed with parathyroid adenoma; no cases of parathyroid carcinoma were identified.

Among the patients reviewed, there were 26 males and 39 females. All patients presented with elevated levels of parathyroid hormone (mean 220.6, range 61.4-2119) and preoperative calcium levels averaging 10.8 (ranging from 3.2 to 15.9).

The most frequently observed location for parathyroid adenomas was the right inferior gland, followed by the left inferior gland. Additionally, 14 cases involved giant parathyroid adenomas (greater than 2cm in size).

In 93.8% of cases, there was a drop of over 80% in intraoperative PTH levels, while in 6.2% of cases, the drop was less than 80%.

#### DISCUSSION:

Primary hyperparathyroidism primarily results from excessive parathyroid hormone secretion due to a parathyroid adenoma or hyperplasia. In our patient cohort, primary hyperparathyroidism was predominant, followed by cases of tertiary hyperparathyroidism.

Parathyroid adenomas are frequently observed in women, consistent with our study where 60% of cases were female. The mean age of patients with parathyroid adenoma in our study was over 40 years, mirroring typical age demographics.

The most common site for parathyroid adenomas is the lower pole of the thyroid, similar to our findings where the right inferior gland was most frequently affected.

All patients underwent surgery, and parathyroid adenoma localization was successful in every case using either ultrasound (USG) or Sestamibi scan.

According to the Miami criteria, a successful surgery is indicated by a more than 50% reduction in intraoperative PTH levels. In our study, 61 patients experienced a drop of over 80% in intraoperative PTH levels. Four patients did not achieve this threshold and subsequently underwent exploration of three glands.

Postoperatively, the optimized PTH value was 9.1 (interquartile range 4.3-46.8). None of the patients exhibited persistent hyperparathyroidism after surgery.

The average hospitalization duration was 4 days, with a maximum of 2 months observed in a patient with hypercalcemic encephalopathy.

There were no immediate postoperative complications, and all patients achieved good long-term follow-up without recurrence.

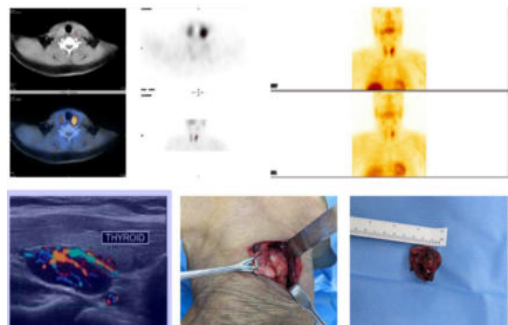
#### CONCLUSION:

Preoperative localization of parathyroid adenomas can effectively be achieved using a Sestamibi scan or ultrasound (USG) of the neck. Minimally invasive surgery is the preferred treatment approach for parathyroid adenomas, and intraoperative PTH monitoring serves as a reliable method to evaluate treatment success.

#### CONFLICTS OF INTERESSETS:

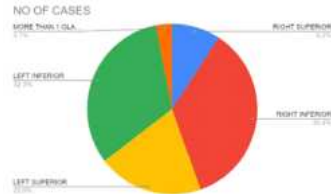
NONE

#### RESULTS:



GENDER	NO OF CASES
MALE	26
FEMALE	39

SITE	NO OF CASES
RIGHT SUPERIOR	6
RIGHT INFERIOR	23
LEFT SUPERIOR	13
LEFT INFERIOR	21
MORE THAN 1 GLAND ADENOMA	2

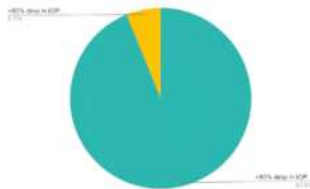


**REFERENCES:**

- Gopinath P, Sadler GP, Mihai R. Persistent symptomatic improvement in the majority of patients undergoing parathyroidectomy for primary hyperparathyroidism. *Langenbecks Arch Surg.* 2010; 395:941-6.
- Westerdahl J, Bergenfelz A. Unilateral versus bilateral neck exploration for primary hyperparathyroidism: five-year follow-up of a randomized controlled trial. *Ann Surg.* 2007; 246:976-80.
- Grant CS, Thompson G, Farley D, van Heerden J. Primary hyperparathyroidism surgical management since the introduction of minimally invasive parathyroidectomy: Mayo Clinic experience. *Arch Surg.* 2005; 140:472-8.

TYPE OF HPT	NO CASES
PRIMARY	57
SECONDARY	3
TERTIARY	5

Symptoms	No of cases
Joint Pains	26
Recurrent renal calculi	16
Pancreatitis	1
Asymptomatic	19



Post OP Calcium supplements	No of cases
IV	14
Oral	51

