

# Safe Surgical Plan in Case of Nonlocalized Parathyroid with Thyroid Nodules

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## ABSTRACT

Papillary thyroid carcinoma increasing in incidence over years. There is always a probability of incidence of papillary thyroid carcinoma in case of primary hyperthyroidism with coexisting thyroid nodules. Among these cases parathyroid adenoma localization with functional imaging is correlated with ultrasonography. In cases of discordant imaging possibility of fine needle aspiration cytology is difficult and risky. In such a scenario parathyroidectomy with hemithyroidectomy will help in one time procedure which will be curative and guide future treatment.

**Keywords:** Parathyroid adenoma, Papillary thyroid carcinoma, Parathyroidectomy.

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## INTRODUCTION

Papillary thyroid carcinoma increasing in incidence over the years. There is always a probability of incidence of papillary thyroid carcinoma in case of primary hyperthyroidism with coexisting thyroid nodules even though coexistence is rare. Here we are describing a case of primary hyperparathyroidism with papillary thyroid carcinoma dealt in a safe surgical plan to avoid overkill and under treatment.

## CASE SCENARIO

A 46-year-old lady came with back pain, shoulder pain, and knee pain for a duration of 10 years and decreased sleep, and she was having irritability and decreased attention for a span of 4 years. On evaluation, she was diagnosed to have primary hyperparathyroidism (corrected calcium 11.1 mg/dL, 11 mg/dL, intact PTH (iPTH) 155 pg/mL, and phosphorus—1.9), Tc99 Sestamibi: not identified parathyroid lesion, USG neck—1 × 0.6 cm lesion near lower pole, 1 × 1.2 cm cystic nodule in the left lobe of thyroid, another 3 mm hyperechoic nodule posterior

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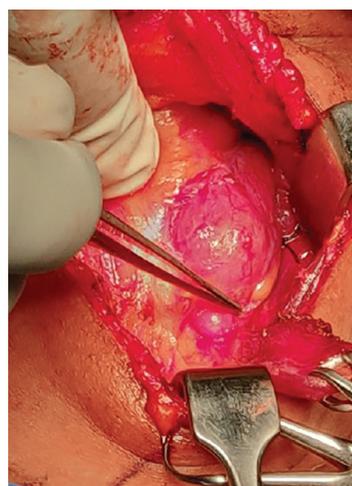
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to the same nodule, two 0.3 cm nodules in the right lobe of thyroid, 4D contrast enhanced computerised tomography (CECT)-mixed soft tissue lesion inferior pole of the left lobe of thyroid, and similar thyroid lesion described in ultrasonography (USG). In view of negative sestamibi-guided fine needle aspiration cytology (FNAC) not done (In similar cases Figs 1 and 2).



**Fig. 1:** Preoperative 4D CECT picture depicting suspicious parathyroid and superiorly large thyroid nodule



**Fig. 2:** Intraoperative picture demonstrating parathyroid adenoma and thyroid nodule

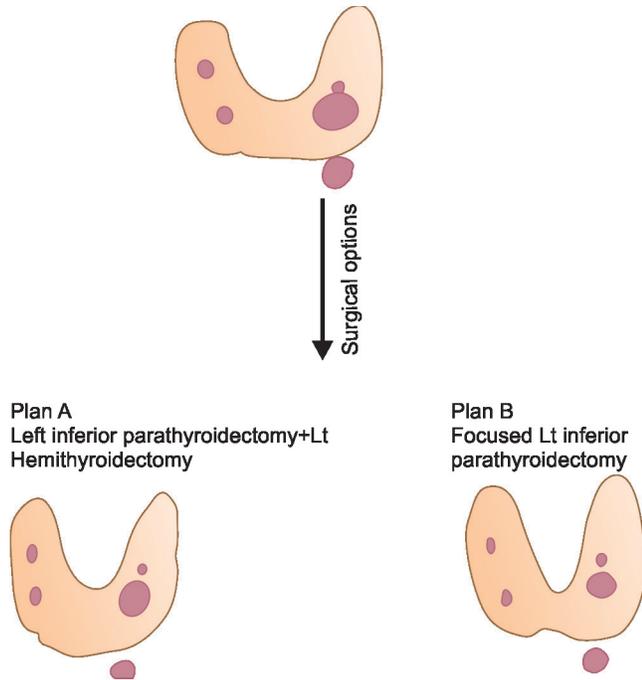


Fig. 3: Surgical plans

### Surgical Plan

Due to the coexistence of thyroid nodules and negative MIBI-guided FNAC (Technetium 99 setamibi) was deferred and offered hemithyroidectomy plus focused parathyroidectomy vs

focused parathyroidectomy. The patient opted for left inferior parathyroidectomy plus hemithyroidectomy.

Surgery went uneventful. Intraoperative PTH fell more than 80%. The patient recovered with oral calcium and vitamin D supplements. The final histopathology revealed parathyroid adenoma in suspicious extrathyroidal lesion which was inferior to the left lobe, a large 1 × 1.2 cm benign colloid nodule in the left lobe, and 0.3 mm papillary thyroid carcinoma (Fig. 3).

Planning and counseling the patient in prep helped to avoid a high-risk reoperative thyroid surgery and now planning for total thyroidectomy in view of patient concern and the presence of two 0.3 cm lesions in the opposite lobe with suspicion of micropapillary thyroid carcinoma.

An ideal plan in a similar scenario is to combine hemithyroidectomy along with parathyroidectomy in case of intraoperative parathyroid hormone (IOPTH), showing a curative fall. This will help to achieve optimum surgical cure in similar cases.

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