

**PRIMARY HYPERPARATHYROIDISM
DETECTED IN A PATIENT UNDERGOING TWO PRIOR THYROIDECTOMIES
FOR FOLLICULAR THYROID CARCINOMA: A CASE REPORT**

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Introduction:

Primary hyperparathyroidism (PHPT) is usually characterized by overproduction of parathormone (PTH) due to a solitary parathyroid adenoma. Its treatment involves surgical removal of the solitary adenoma or hyperplastic parathyroid glands that secrete PTH. Medical treatment options are used for patients with conditions that preclude surgical operation.

Case Presentation:

A 57-year-old female patient underwent left total and right subtotal thyroidectomy operations on 18.05.2009 for multinodular goiter. Pathological examination revealed a 5.5 cm follicular carcinoma in the left lobe. Lymphovascular invasion of the tumor was present. On 30.06.2009, she underwent completion thyroidectomy, and central compartment and ipsilateral lateral cervical lymph nodes dissection. Subsequently received ablative therapy with radioactive iodine (RAI) at a dose of 150 mCi. Elevated calcium and reduced phosphorus levels were found during her follow-up visits (**Table**). While the findings of several tests were consistent with primary hyperparathyroidism, only a slightly echoic, well-circumscribed lesion (5x5x11 mm) located close to the former place of the inferior pole of the right thyroid gland was detected by neck ultrasound images and its vascularization was shown by Doppler ultrasound (**Figure-1**). However, no increase in activity or uptake was observed during parathyroid scintigraphy (**Figure-2**) and neck CT did not show a tumor mass formation.

Her serum calcitonin level was normal (**Table**). The possibility of a thyroid medullary carcinoma was excluded by reexamining of her paraffin-embedded thyroid blocks. The patient who already had undergone two major surgeries and one course of RAI treatment refused another neck operation. Thus, treatment with Cinacalcet was initiated. Calcium values returned to normal after the treatment (**Table**).

Table and Figures:

Table : Biochemical tests of the patient

Parameter	Pre-thyroidectomy (2009)	Post-thyroidectomy (2019)	After Cinacalcet (2016)	Reference ranges
BUN (mg/dl)	30	28	25	10-50
Creatinine (mg/dl)	0.8	0.8	0.7	0.5-1.0
Calcium (mg/dl)	10.5	11.5	8.6	8.6-10.2
Phosphate (mg/dl)	3.0	2.5	3.2	3.5-4.5
Albumin(g/dl)	4.2	4	4.4	3.5-5.2
ALP (U/L)	108	120	115	<200
PTH (pg/ml)	N/A	98	103	20-75
25-OH vit D (ng/ml)	N/A	37	40	30-100
TSH (µU/ml)	3.2	0.5	0.4	0.25-3.00
TT4 (ng/dl)	1.1	1.7	1.8	0.93-1.90
Thyroglobulin(ng/ml)	364	0.2	0.2	1.8-59.9
Anti-TG (IU/ml)	N/A	<10	<10	<10
Calcitonin (pg/ml)	N/A	2	N/A	Males: <11, Females: <5
Prolactin (ng/ml)	N/A	15	N/A	1.9-25



Figure-1

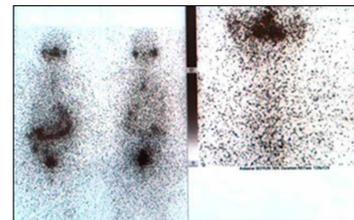


Figure-2

Conclusion:

PHPT in the presence of thyroid follicular carcinoma is a rare occurrence. Non-visualization of parathyroid tissue by imaging studies in a patient with two prior thyroidectomy operations and RAI therapy makes our case quite an interesting one. Cinacalcet therapy is a good therapeutic option to control calcium levels in cases where excessive secretion of PTH cannot be achieved by surgical intervention.