

Post - operative thyroiditis: An under recognised clinical phenomenon

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Introduction

- Thyrotoxicosis following parathyroid surgery is a well recognised but under appreciated entity. We report a case of transient thyrotoxicosis following parathyroidectomy

Case Report

- A 34 year old lady with previous renal stones, constipation and well controlled bipolar mood disorder, on Lithium for thirteen years, was referred with high calcium and raised parathyroid hormone.

Tests	Results	Normal range
Adj Calcium	2.72 mmol/L	(2.1-2.58)
PTH	11.2 pmol/L	(1.2-4.2)
TSH	1.62 mU/L	(0.35-6.0)
Glucose	6.5 mmol/L	
Serum electrophoresis	No paraprotein detected	
ACE	2.0 u/L	(20-95)
24hr urine calcium	3.0 mmol/ 2.32 L of urine	(2.5-6.2)
24hr urine catecholamines	negative	

- The biochemistry was consistent with primary hyperparathyroidism.
- A workup for possible underlying MEN syndrome came back as negative.
- An ultrasound scan of the parathyroid showed three tiny soft tissue hypoechoic nodules inferior to the lower pole of the left lobe of thyroid, raising suspicion of one or more parathyroid adenomas.
- A sestamibi scan was unable to localise any parathyroid adenoma.
- She underwent a bilateral neck exploration and four gland parathyroidectomy and thymectomy as a fifth parathyroid gland was felt to be embedded within the thymus.
- Histology revealed a hyperplastic left upper parathyroid along with cystic parathyroid embedded in thymus. Other parathyroids were reported to be normal.
- Four days post operatively, she was admitted with confusion, tachycardia and carpo-pedal spasm.

Tests	Results	Normal Range
Adj Calcium	1.93mmol/L	(2.1-2.58)
Free T4	>100pmol/L	(9.0-26.0)
Free T3	50 pmol/L	(2.8-7.1)
TSH	<0.02mU/L	

- Hypocalcemia was treated with adjustment of Sandocal dosage and alfacalcidol was initiated at discharge.
- TFT in keeping with thyrotoxicosis raised a suspicion of surgery induced thyroiditis caused by handling of the thyroid during surgery.
- She was treated with propylthiouracil, propranolol along with antibiotics; to cover for possible surgical site infection.
- TFTs improved dramatically and normalized in about 3 weeks.
- Propylthiouracil dose was tapered and stopped within few weeks.

Discussion

- Thyroid hormone levels have been reported to rise following local trauma, fine-needle aspiration and thyroid surgery.
- This is consistent with our case in which there was extensive palpation and exploration to locate the parathyroid glands.
- Manipulation of the thyroid gland either during neck exploratory surgery or repeated palpation can result in inflammation of the thyroid gland (i.e. 'palpation thyroiditis').
- Hyperthyroidism is usually transient due to leakage of the preformed thyroid hormone in blood.
- Symptoms are usually mild/ asymptomatic but can pose a significant clinical problem as in our patient.
- Condition is self limiting, requiring symptomatic treatment. Our patient needed to be considered for antithyroid medication and beta blockers for resolution of symptoms.

Conclusion

- Although post-operative thyroiditis following neck exploration surgery is well described, it is an under appreciated entity.
- Candidates for parathyroidectomy should be informed of this potential complication, and thyroid function should be assessed if clinically indicated.

References

- Espiritu RP, Dean DS. Parathyroidectomy induced thyroiditis. *Endocr Pract.* 2010 Jul-Aug;16(4):656-9. doi:10.4158/EP09367.CR.