

## Parathyroid Hormone as a Predictor of Post Total Thyroidectomy Parathyroid Gland Injury

**Background:** Post-thyroidectomy hypocalcaemia is one of the most prevalent morbidities. Serum parathormone hormone (PTH) levels before and after the operation have been an area of high interest for detecting the risk of postoperative hypocalcaemia.

**Aim:** This study was conducted to determine the accuracy of perioperative parathormone hormone assessment as a predictor of parathyroid gland injury in total thyroidectomy operations.

**Methods:** Fifty patients presented with goiter indicated for total thyroidectomy operation were evaluated and operated. Routine preoperative labs with measurement of the parathormone hormonal level, thyroid profile, and serum calcium (Ca) were done.

**Results:** The level of postoperative PTH was lower in patients with post operative manifestations of hypocalcaemia than those without ( $6.3 \pm 5.1$  vs.  $24.8 \pm 6.7$ ), with a 78.9% drop in PTH from the preoperative level in the hypocalcaemia group versus 56.1% drop in the normocalcemia group ( $P < 0.0001$ ). Percentage changes in PTH had good discriminative power, AUC=0.840 (95% CI: 0.648-1.000),  $p=0.002$ .

**Conclusion:** postoperative PTH levels can be a good predictor of hypocalcemia in total thyroidectomies. Patients with a greater than 64.8% decrease in PTH levels were significantly more likely to develop hypocalcemia.

**Keywords:** hypocalcemia; predictor; PTH; thyroidectomy