

INTACT PARATHYROID HORMONE LEVEL MEASURED ONE HOUR AFTER COMPLETION OF TOTAL THYROIDECTOMY PREDICTS SYMPTOMATIC HYPOCALCEMIA

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Objective: To evaluate the utility of intact parathyroid hormone (iPTH) level measurement 1 hour after thyroid surgery for predicting which individuals are at risk for developing symptomatic hypocalcemia.

Methods: A prospective study of 21 individuals undergoing either total or completion thyroidectomy was carried out. iPTH and ionized calcium levels were drawn at one hour and six hours after surgery and at 7 AM the following day. Symptomatic hypocalcemia was recorded and calcium supplementation was given by protocol without knowledge of iPTH results.

Results: Eighteen of twenty-one study patients developed postoperative hypocalcemia (iCa²⁺ <1.17) [4 symptomatic, 14 asymptomatic]. Study subjects whose iPTH was greater than 2.5 pg/ml did not develop symptoms of hypocalcemia and 4 of 8 study subjects (50%) whose iPTH was less than or equal to 2.5 pg/ml developed symptomatic hypocalcemia requiring treatment.

Conclusions: This study suggests that a 1 hour postoperative iPTH level (iPTH less than or equal to 2.5 pg/ml) could be utilized clinically to identify those individuals at a significantly increased risk of developing symptomatic hypocalcemia (sensitivity 100%). Further study of 1 hour postoperative iPTH level-guided calcium supplementation protocols is warranted, may facilitate earlier hospital discharge, and may reduce perioperative morbidity in individuals undergoing thyroid operations.