

ASSOCIATION OF POSTOPERATIVE HYPOCALCEMIA WITH PTH LEVEL AFTER THYROID SURGERY

Noureldine, Salem¹; Genter, Dane¹; Tufano, Ralph¹

¹Department of Otolaryngology - Head and Neck Surgery, Johns Hopkins University School of Medicine, Baltimore, MD, USA

Background/Purpose: Postoperative hypocalcemia is a common complication after total thyroidectomy and usually the primary reason for overnight hospital admission. Confidently predicting which patients will not develop hypocalcemia may decrease utilization of healthcare resources.

Methods: Data were retrospectively collected on consecutive patients who underwent total/completion thyroidectomy from 12/2009-11/2012 at a tertiary medical center (n=440). Intact PTH was routinely drawn within 6-8 hours after surgery for all patients. Hypocalcemia was defined as postoperative serum calcium of <8.0 mg/dL (normal range: 8.4-10.2 mg/dL) or development of symptoms of hypocalcemia. Chi-square and t-tests were used to determine univariate associations of hypocalcemia with predictor variables. Multivariate logistic regression (MVR) was used to determine independent predictors of hypocalcemia.

Results: Thirty-two percent of females and 21% of males developed hypocalcemia postoperatively (p=.26). PTH level was significantly associated with the development of hypocalcemia (p<.001). Fifty percent of patients with Graves' disease developed hypocalcemia, compared to 28% of those without (p=.14). All subjects with Graves' disease and postoperative PTH <30 pg/mL developed hypocalcemia (p=.01), while no male patients with postoperative PTH ≥30 pg/mL developed hypocalcemia (p=.01). On MVR, hypocalcemia was independently associated with postoperative PTH (p=.01) and vitamin D (p=.04) with a trend toward association with Graves' disease (p=.13).

Discussion & Conclusion: Male patients with a postoperative PTH ≥30 pg/mL are unlikely to develop hypocalcemia, while patients with Graves' disease and postoperative PTH <30 pg/mL may warrant prophylactic calcium and vitamin D supplementation.