

VALIDATION OF INTRA-OPERATIVE PARATHYROID HORMONE 20MIN AFTER TOTAL THYROIDECTOMY: TRACING HYPOCALCEMIA-PRONE PATIENTS AND ADJUSTING A PROTOCOL FOR POSTOPERATIVE CALCIUM SUPPLEMENTATION. A PROSPECTIVE COHORT STUDY.

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Introduction: Identifying patients with hypocalcemia may facilitate early discharge after total thyroidectomy (TT). Intraoperative parathyroid hormone (IO-PTH) levels have been shown to be an interesting tool. The aim of this prospective study was to evaluate reliability of IO-PTH levels at 20 minutes after TT (IO-PTH₂₀) Patients and Methods: This is a single-institution study of consecutive patients who underwent TT in one step between November 2016 and December 2017. In a first 6-month period, we investigated the correlation between serum IO-PTH₂₀ and POD1 calcium levels, to define an optimal cut-off in IO-PTH₂₀. In a second 6-month period, we prospectively enrolled patients adjusting postoperative calcium supplementation to the IO-PTH₂₀ cut-off (1.54g/day from POD0 for 15 days in case of PTH < cut-off). We defined postoperative hypocalcemia as serum calcium level <8.0 mg/dL at any time after surgery. Results: 904 patients underwent TT, including 355 carcinomas (39%): 417 during the 1st period, and 487 in the 2nd period. Populations were equivalent in the two periods. The most accurate IO-PTH₂₀ level in predicting hypocalcemia was 20pg/mL (sensitivity:95%; specificity:69%). The mean (\pm SD) serum calcium concentration on POD 1 was 8.7(\pm 0.6) mg/dL in the 1st period and significantly increased in the second period to 9.2(\pm 0.7) mg/dL (p <0.001). Temporary hypocalcemia (<6 months) rates were less common in patients who were subject to our algorithm (13% vs. 24%; p <0.001). Conclusion: Patients with an IO-PTH₂₀ >20 ng/L could be early discharged without prophylactic calcium. For IO-PTH₂₀< 20 ng/L, a systematic prophylactic oral calcium supplementation decreases the risk of hypocalcemia.