

## **ROUTINE SERUM CALCIUM MEASUREMENT REQUIRED AFTER THYROIDECTOMY FOR CANCER-AN EXERCISE IN FUTILITY?**

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**Background/Purpose:** The incidence of hypocalcemia following thyroidectomy ranges between 9-43%. We set out to analyze the utility of routine serum calcium measurement and incidence of symptomatic hypocalcemia requiring intravenous calcium in the immediate postoperative period after thyroidectomy.

**Methods:** Data collected from a tertiary care hospital tumor registry of 491 patients who underwent thyroidectomy between 2009 and 2011 were analyzed. Patient demographics, tumor characteristics, preoperative and postoperative serum calcium levels, and clinical history of hypocalcemia were collected. All patients received oral calcium  $\pm$  vitamin D supplementation postoperatively.

**Results:** Out of 491 patients, 74% were females with an average age of 51 years (range 12-87). Total thyroidectomy (TT) was performed on 80% patients and 78 % had papillary carcinoma (PC). The incidence of biochemical hypocalcemia ( $\text{Ca} < 8 \text{ g/dl}$ ) was 18.3 % (n=90), while only 2.4% patients (n=12) reported symptoms of mild hypocalcemia, requiring intravenous calcium. Eleven of those patients underwent TT and 10 patients had PC. No patients with asymptomatic hypocalcemia received intravenous calcium. Parathyroid tissue in the specimen did not statistically correlate with hypocalcemia. Tumor size in the symptomatic hypocalcemia group (median 1.8 cm; IQR- 1.5-4) compared to normocalcemia group (median= 1.2cm; IQR 0.7-2) demonstrated a statistically significant difference ( $p < 0.0225$ ). The incidence of symptomatic hypocalcemia statistically correlated in patients with advanced stage of the disease ( $p < 0.0029$ ).

**Discussion & Conclusion:** Incidence of symptomatic hypocalcemia requiring intravenous calcium in our post-thyroidectomy patients remains low. This might be related to patients receiving routine oral calcium and vitamin D supplementation and suggest that routine serum calcium measurements after thyroidectomy may be unnecessary.