

## **A VALIDATED AND COST-SAVING METHOD THAT MAKE USE OF THE IPTH TO PREDICT HYPOCALCEMIA AFTER THYROIDECTOMY**

Castro, Alejandro<sup>1</sup>; del Rio, Laura<sup>1</sup>; Bernaldez, Ricardo<sup>1</sup>; del Palacio, Antonio<sup>1</sup>; Alvarez-Escola, Cristina<sup>2</sup>; Fernandez-Martinez, Alberto<sup>2</sup>; Riesco-Eizaguirre, Garcilaso<sup>2</sup>; Gavilan, Javier<sup>1</sup>

<sup>1</sup>Otolaryngology Department, La Paz University Hospital, Madrid, Spain; <sup>2</sup>Endocrinology Department, La Paz University Hospital, Madrid, Spain

**Background/Purpose:** Parathyroid hormone (PTH) has been found to predict hypocalcemia in patients undergoing thyroidectomy. However, different timings for PTH samples and cutoff points have been proposed in the literature. This study attempt to standardize the method.

**Methods:** 224 out of 296 consecutive patients that underwent total or completion thyroidectomy met the inclusion criteria. PTH samples were obtained preoperatively, immediately postoperatively, and a number of hours after surgery.

**Results:** No significant effect of the timing of PTH samples was detected. The percent change in PTH levels was superior to the absolute value of postoperative PTH to predict the need for treatment for hypocalcemia. A cutoff point of 80% decrease in PTH levels has a negative predictive value of 100% (95% CI: 97%-100%), and a cutoff point of 98% decrease has a positive predictive value of 91% (95% CI: 62%-98%). A different population of 66 patients validated these values. This method allows the saving of more than 900€per patient.

**Discussion & Conclusion:** Patients with less than 80% decrease in PTH levels can be safely discharged home a few hours after total or completion thyroidectomy. Those with a decrease of 98% or higher can start calcium supplementation before the development of symptoms. The serum calcium levels of the remaining patients should be monitored to determine the need for treatment for hypocalcemia. The method has been validated with a different population; it is accurate and safe, and resulted in a considerable saving in costs.