

Parathyroid hormone assay following total thyroidectomy for early prediction of post-operative hypocalcemia

Abstract

Background: Detecting post-operative hypocalcaemia following total thyroidectomy using serum parathyroid hormone levels would help in an earlier and a definitive treatment plan in treating hypocalcaemia.

Methods: This was a prospective interventional study done in a tertiary care teaching hospital. This was mainly done to assess the post-operative hypocalcemia following total thyroidectomy using parathyroid hormone levels and to assess the correlation between the two. With a baseline levels recorded patients underwent a post-operative evaluation of parathyroid hormone 1 hour after total thyroidectomy and serum calcium levels on day 1, 2, 3 and 4 after surgery. The same was statically analyzed to find a correlation between parathyroid hormone levels and the degree of hypocalcemia and evaluated to see if parathyroid hormone was a reliable clinical indicator.

Results: A total of 30 patients were included in the study and the parathyroid hormone levels were assessed following surgery, the same was plotted statistically. Sensitivity of parathyroid hormone drop by 75% in predicting hypocalcaemia was 95%. 50% drop in parathyroid hormone levels was a sensitive predictor of hypocalcaemia. A PTH value of less than 15.1pg/ml was highly specific and sensitive indicator of hypocalcaemia.

Conclusions: Parathyroid hormone Assay following total thyroidectomy is reliable for early prediction of hypocalcaemia. Patients with a parathyroid hormone level <9pg/ml or with 75% drop in parathyroid hormone level are at a high risk for hypocalcaemia and would require calcium supplementation.