

Review of: "Risks and prediction of postoperative hypoparathyroidism due to thyroid surgery"

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Potential competing interests: The author(s) declared that no potential competing interests exist.

Yazıcıoğlu et al. have published a retrospective non-randomized longitudinal observational cohort study analyzing variables associated with the prevalence of postoperative hypoparathyroidism (PoH), the relevant factors, and predictors of transient or permanent hypoparathyroidism.

The objectives of the study are presented clearly and the introduction section communicates the need for defining risk factors for post-total thyroidectomy hypocalcemia more clearly on a sufficient number of patients. One could argue that patients presenting to a tertiary referral center are affected by selection bias and surgeon's experience, which should be communicated in the discussion section, to avoid an underestimation of postoperative hypocalcemia, since a quite low prevalence of 16.48% was reported in the study.

The Materials and Methods section has clearly defined inclusion and exclusion criteria, and has listed adequate statistical tests. The clear definition of permanent hypothyroidism has not been provided in the text. It would be a good idea to comment on the inter-variability of laboratory reference ranges when defining a cut-off value for hypoparathyroidism, since many institutions have different testing methods and lower reference intervals.

In the Results section, the reported results are congruent with previously published results.

It is odd that performing a neck dissection did not influence postoperative hypoparathyroidism prevalence, since that is usually the most robust variable associated with hypoparathyroidism, presenting a red flag concerning the validity of statistical analysis. Also, preoperative PTH has not been measured, presenting another potential source of bias due to possible preoperative vitamin D/PTH deficiencies.

In the discussion section, the authors did not cite all available literature discussing PTH cut off values (Košec A, Hergešić F, Matovinović F, Rašić I, Vagić D, Bedeković V. Identifying early postoperative serum parathyroid hormone levels as predictors of hypocalcaemia after total thyroidectomy: A prospective non-randomized study. *Am J Otolaryngol*. 2020 May-Jun;41(3):102416. doi: 10.1016/j.amjoto.2020.102416. Epub 2020 Feb 4. PMID: 32046865.)

I would urge the authors to present the ROC curve data graphically as well, especially the long and short node axis curves, since they showed a good sensitivity and specificity rate and positive predictive value. I congratulate the authors on a well-crafted study and would endorse further inquiry into establishing a robust predictor of postoperative hypocalcemia on a multi-center patient cohort.

