

Extended Resection for Thyroid Disease is Associated With More, Not Less Operative Morbidity Than Limited Resection

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Based on a comparison of two successive cohorts from the same institution, a total of 4349 operations with 5785 “nerves at risk,” Seiler et al. [1] concluded that “extended resection for thyroid disease has less operative morbidity than limited resection,” which was also the title of their work. This message seems to go counter to intuition and, taken at face value, may be construed as implying that surgeons just need to extend the scope of the resection to reduce surgical morbidity. A closer look at the authors’ data, including an extension of the literature review beyond the year 1999, reveals that the opposite is likely to be true.

As depicted in Table 2 of their work, both institutional cohorts differed significantly at baseline in terms of the frequency of operations for recurrence: 11% (1972–1990) versus 8% (1991–2002); $p = 0.002$. In the corresponding text, the authors gave little prominence to this differential baseline finding, insisting that “the indications for surgery were the same in both study periods.” Indeed, on multivariate analysis of 16,448 thyroid operations with 29,998 nerves at risk” [2], surgery performed for recurrent thyroid conditions entailed the greatest risk of permanent recurrent laryngeal nerve palsy (odds ratio 4.7–6.7). As a consequence, the fall in the number of operations for recurrence from 11% to 8% alone might have accounted for the observed decline in the postoperative nerve palsy rates from 3.6% to 0.9% at the authors’ institution.

With regard to postoperative hypoparathyroidism, operations for recurrence were associated with a smaller risk than the extent of resection on multivariate analysis of

5846 consecutive patients [3] (odds ratio 4.7 for total thyroidectomy versus 1.7 for operations for recurrence). When total thyroidectomy is performed in lieu of subtotal thyroid resection, the line of the resection progresses toward the parathyroid glands. This is likely to enhance the risk of postoperative hypoparathyroidism unless the level of surgical proficiency is raised at the same time. Logically, a surge in the extent of thyroid resections cannot explain the reported reduction in postoperative hypoparathyroidism rates from 3.2% to 0.6%. Intriguingly, the authors did not attempt to measure the extent of resection directly, such as the size of the thyroid remnant, despite their prospective study design, instead relying exclusively on the time period as a purported substitute for extent of resection.

Altogether, the recent decrease in surgical morbidity at the authors’ institution may have been due to a reduction in the number of operations for recurrence and intervening progress in surgical technology and technique (magnifying glasses, bipolar forceps coagulation, visualization of the recurrent laryngeal nerve, nerve monitoring, etc.). Difficult to quantify, these advances can be subsumed under the rubric of “time bias” to which the authors seemingly have fallen victim.

References

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