

Advantages of Recurrent Laryngeal Nerve Identification in Thyroidectomy and Parathyroidectomy and the Importance of Preoperative & Postoperative Laryngoscopic Examination in More Than 1000 Nerves at Risk.

Content

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Objectives/Hypothesis: Recurrent laryngeal nerve palsy (RLNP) is a major obstacle in thyroid and parathyroid surgery. Therefore, methods that reduce the number of temporary and, especially, permanent recurrent laryngeal nerve palsies are of great interest. One promising way to ensure the integrity of the recurrent laryngeal nerve (RLN) is to identify the nerve always. The first question raised in the present study was whether RLN preparation reduces the number of recurrent laryngeal nerve palsies or whether it introduces additional risks. Second, from former cases we know that the absence of postoperative hoarseness does not exclude RLNP, nor does postoperative hoarseness exclusively imply RLNP. Besides, misdiagnosis is not uncommon. Therefore, preoperative and postoperative laryngoscopic examination was given attention.

Study Design: Patients were investigated 1 to 7 days before and 3 to 7 days after surgery. When an RLNP was identified, patients were followed up in a 2-week rhythm the first few times and every 6 to 8 weeks thereafter until RLNP resolved or it was considered permanent after 2 years.

Methods: We prospectively investigated 608 surgical patients with 1080 nerves at risk. Because different diseases might have different rates of postoperative RLNP, we analyzed benign thyroid disease (680 nerves at risk), thyroid malignoma (321 nerves at risk), and hyperparathyroidism (79 nerves at risk) separately. Patients undergoing primary surgery (no prior thyroid surgery) and secondary interventions (there were one or more thyroid operations before this intervention) were evaluated separately.

Results: We found 3.4%, 7.2%, and 2.5% of temporary recurrent laryngeal nerve palsies per nerve in the benign thyroid disease, thyroid malignoma, and hyperparathyroidism groups, respectively. The prevalence of recurrent laryngeal nerve palsies in these groups was 0.3%, 1.2%, and 0%, respectively. Conforming with other studies, the total number of recurrent laryngeal nerve palsies (temporary and permanent) was not increased compared with cases with no RLN preparation, whereas the number of permanent recurrent laryngeal nerve palsies was markedly reduced. An RLN was always identifiable. Astonishingly, the restitution of an RLNP was up to 2 years in duration; however, most restitutions occurred within the first 6 months. Thirty cases of hoarseness appeared or were intensified after surgery and were not caused by RLNP. Eleven cases of postoperative RLNP had no detectable hoarseness.

Conclusions: Besides indirect laryngoscopy, videostroboscopy should be performed in all cases with no evident bilateral normal laryngeal function or normal voice. Otherwise, the incidence of false-positive or false-negative diagnosis of RLNP is likely to be increased.

