INTRAOPERATIVE RLN MONITORING AMONG AHNS MEMBERS

INTRAOPERATIVE NERVE MONITORING IS USED ROUTINELY BY A SIGNIFICANT MAJORITY OF HEAD AND NECK SURGEONS IN THYROID SURGERY AND IMPACTS ON EXTENT OF SURGERY-SURVEY OF THE AMERICAN HEAD AND NECK SOCIETY. HEAD & NECK 2020

Risk cases

Recurrence of laryngeal nerve (RLN) injury is a feared outcome of thyroid surgery and rates of injury have been reported as high as 7%. Direct visual identification of the nerve reduces the risk of injury, however there remains a risk of vocal cord paresis despite an intact nerve in cases of nerve stretch or thermal cautery injury. Neural monitoring using electromyography was developed to allow real-time functional assessment of the RLN intraoperatively to guide surgical decision-making and has gained traction in the recent years.

Unfortunately, there has been contradictory evidence regarding the degree to which nerve monitoring reduces the risk of nerve injury. Given the inconsistencies, consensus guidelines have been elusive to date and there is great variability in the use of nerve monitoring among otolaryngologists. The authors of a study in the journal Head & Neck from February 2020 sought to better characterize usage patterns with a web-based survey.

The survey was anonymous and distributed to all active members of the American Head and Neck Society (AHNS) and included fourteen multiple choice questions. Two-hundred and seventy-five (275) of 827 members responded, 75% of which being fellowship trained head and neck oncologic surgeons. Ninety-seven percent (97%) reported routinely visually identifying the RLN during thyroid surgery, while only 19% routinely search for the external branch of the superior laryngeal nerve.

Regarding use of intraoperative nerve monitoring, 72% reported use in all thyroid surgeries while 21% reported use only in high risk cases (revision surgery, known contralateral nerve palsy, and extrathyroidal malignant extension). Only 7% reported never using nerve monitoring and cited lack of added benefit, high cost, and high rate of false negatives as the reason for not using monitoring.

Respondents that had been in practice less than 10 years were significantly more likely to use monitoring and this cohort was more likely to be fellowship trained and had fewer high volume surgeons (> 50 thyroidectomies per year).

Seventy percent (70%) of respondents reported permanent injury rate of less than 1%, 25% reported injury rates of 1-2%, and the remainder reported injury rates of 2-5%. There was no association between use of neural monitoring and lower reported rates of nerve injury.

When questioned about loss of signal during thyroid surgery, 59% reported that they would stimulate the RLN and palpate the larynx before making a decision about continuing to excise the contralateral lobe. Sixteen percent (16%) replied that in the scenario of loss of signal, they would only continue to the contralateral lobe in the case of malignancy. Fourteen percent (14%) would continue to the contralateral side in any case and 11% would abort the surgery in any case with loss of signal.

Though limited by its questionnaire design and the potential for responder bias, this study provides valuable information on the current trends in use of RLN neural monitoring in thyroid surgery. The authors primarily advocate for neural monitoring as a tool for intraoperative decision-making and prognostication. More data is needed before the role and benefit of intraoperative neural monitoring is clearly defined.