

Articles of Interest - Thyroid Surgery

Johnson S, G. D. (2008), 'Intraoperative Monitoring of the Recurrent Laryngeal Nerve During Revision Thyroid Surgery', *Otolaryngologic Clinics North America* 41, 1147–1154.

SUMMARY

Reoperation for recurrent or persistent thyroid cancer presents a challenge for the head and neck surgeon. Scarring, edema, and friability of the tissues together with distortion of the landmarks make reoperative thyroid hazardous. Meticulous surgical dissection with identification of the RLN is of paramount importance. IONM is useful in reoperative thyroid surgery, however, especially in situations where the anatomic situation diverges from the normal. Intraoperative RLM monitoring may reduce the morbidity or reoperative thyroid surgery.

Barczynski, M.; Konturek, A. & Cichon, S. (2006), '[Value of the intraoperative neuromonitoring in surgery for thyroid cancer in identification and prognosis of function of the recurrent laryngeal nerves.]', *Endokrynol Pol* 57(4), 343 – 346.

ABSTRACT:

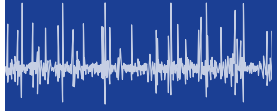
Introduction: The aim of this study was both, to evaluate the usefulness of the method of neuromonitoring in intraoperative identification of the RLN and to estimate its value in the prognosis of postoperative RLN function in patients operated for TC. Material and methods: Among 109 patients undergoing surgery for TC between 12/2004 and 12/2005 the neuromonitoring method was used in 69 (63.3%) individuals (including 5 operations of completion total thyroidectomy). A Neurosign 100 equipment with laryngeal electrodes was employed in identification and assessment of total number of 134 RLN. Intraoperative results were compared to the postoperative results of the ENT-specialist examination of vocal cords mobility in indirect

laryngoscopy, in each patient. Results: Transient vs. permanent, unilateral RLN palsy was noted in 3 vs. 2 patients (2.2% vs. 1.4% of nerves at risk). The method of neuromonitoring facilitated identification of 123 (91.8%) RLN being not helpful in 11 (8.2%) cases. However, neuromonitoring was helpful in identification of the RLN, the value of the method in prognosis of postoperative function of the RLN was limited. Results of indirect neurostimulation were more accurate than direct neurostimulation and were more accurate in prognosis of late rather than early RLN function after surgery (sensitivity 98.3%; specificity 100%; positive predictive value 100%; negative predictive value 50%, accuracy 98.4%). Conclusions: Application of intraoperative neuromonitoring facilitates identification of the RLN during surgery for TC. However, the method is of limited value in prognosis of postoperative RLN dysfunction in cases of missing signal after nerve stimulation.

Jonas, J. & Bähr, R. (2006), '[Intraoperative Neuromonitoring of the Recurrent Laryngeal Nerve - Results and Learning Curve.]', *Zentralbl Chir* 131(6), 443 – 448.

ABSTRACT:

Intraoperative neuromonitoring was introduced in thyroid surgery several years ago resulting in a facilitated identification of the recurrent laryngeal nerve and less recurrent laryngeal nerve injuries. Between 1999 and 2004 data of all patients (n=937) undergoing thyroid resection were recorded prospectively and analyzed yearly. The intraoperative identification of recurrent laryngeal nerve succeeded in 99.2% (1665 nerves at risk). The percentage of completely resecting surgical procedures raised from 17% to 56%. Minimal vocal cord dysfunction associated with hematoma and edema in most cases was diagnosed laryngoscopically in 1.4-2.4%. Transient recurrent nerve



palsies were seen in 2.3% without changes throughout the years. The permanent palsy rate of 0.8% in the first years decreased. No permanent palsies were diagnosed in the last 3 years. Routine introduction of intraoperative neuromonitoring in thyroid surgery is associated with a demonstrable learning curve lasting several years. Permanent palsy rate is decreased. The rate of minimal vocal cord movement disorders and transient recurrent laryngeal nerve palsies is not changed.