Pre-op exam, nerve monitor provides valuable thyroid outcomes information

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Intraoperative recurrent laryngeal nerve (RLN) monitoring has gained popularity with approximately 53 percent of general surgeons and 65 percent of otolaryngologists using intraoperative nerve monitoring in select or all cases. The importance of laryngeal exam prior to thyroid surgery has also been increasingly recognized, but the relationship between surgical outcomes and these two parameters has not been studied.

Researchers at Massachusetts Eye and Ear/Harvard Medical School set out to elucidate the electrophysiologic responses LRNs that were preoperatively paralyzed or invaded by malignancy and to use this information for intraoperative management of cancerous RLNs. Their research is described in the November 2013 issue of the journal *Otolaryngology – Head and Neck Surgery*.

The study involved retrospective review of all consecutive neck surgeries with nerve monitor performed by senior author Gregory W. Randolph, M.D., director of the division of Thyroid and Parathyroid Surgery at Massachusetts Eye and Ear/Harvard Medical School between December 1995 and January 2007.

Of the 1,138 surgeries performed, 25 patients had preoperative vocal cord dysfunction. In patients with preoperative vocal cord dysfunction, recognizable LRN electrophysiologic activity was preserved in more than 50 percent of the cases. Malignant invasion of the RLN was found in 22 patients. Neural invasion of the RLN was associated with

preoperative vocal cord paralysis in only 50 percent of these patients. In nerves invaded by malignancy, 60 percent maintained recognizable electrophysiologic activity, which was more commonly present and robust when vocal cord function was preserved, the authors wrote.

"Knowledge of electrophysiologic intraoperative neural monitoring provides additional functional information and, along with information about the preoperative condition of the vocal cord function, helps to construct decision algorithms regarding intraoperative management of the LRN, predicting postoperative outcomes, and counseling patients on expectations after surgery," said Dr. Randolph, who is also a professor of Otology and Laryngology at Harvard Medical School.

Provided by Massachusetts Eye and Ear Infirmary