

UNLOCKING THE COMPLEXITY: EXPLORING THE IMPACT OF INTRAOPERATIVE NEUROMONITORING AND HOSPITAL VOLUME ON VOCAL CORD PARALYSIS RATES IN FIRST-TIME THYROIDECTOMY FOR BENIGN DISEASE

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Introduction:

Recurrent laryngeal nerve palsy (RLNP), leading to vocal cord paralysis (VCP), is a potential complication of thyroidectomy. Studies on the effectiveness of intraoperative neuromonitoring (IONM) in reducing VCP risk remain inconclusive. This large-scale multicenter study investigated the impact of IONM and other factors on VCP rates in first-time thyroidectomy for benign thyroid disease.

Materials and Methods:

Data from the EUROCRINE® registry (May 2015-January 2019) were analyzed via a secondary source. Patients undergoing first-time thyroidectomy for benign disease with postoperative laryngoscopy were included (n=4598). VCP diagnosis, IONM use, hospital volume, and other potential risk factors were evaluated.

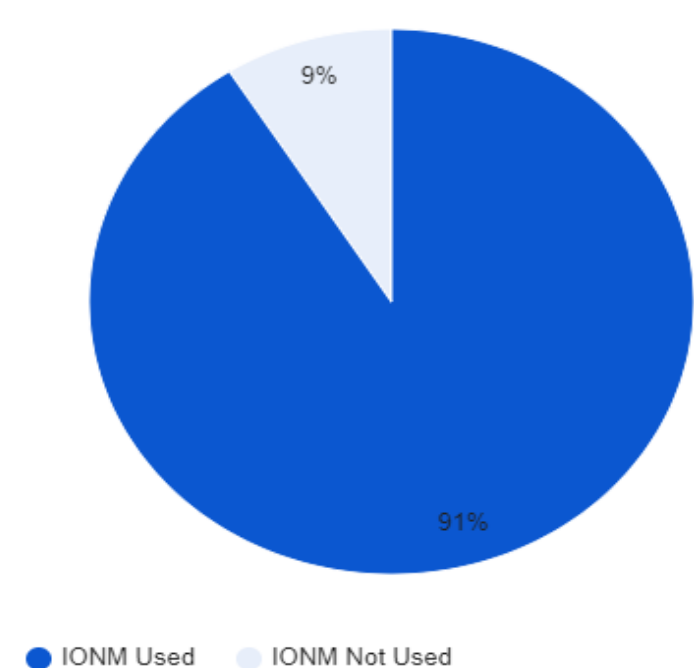
Results:

Postoperative laryngoscopy was not routinely used for VCP assessment across centers. IONM was implemented in 91% of operations and significantly reduced VCP rates compared to non-IONM cases (0.9% vs. 3.1%, $p < 0.001$). IONM facilitated intraoperative RLN damage detection (3.9% vs. 1.9% without IONM) and demonstrated association with both early and permanent VCP in theoretical models. However, limitations included incomplete information on specific IONM techniques and long-term VCP follow-up. Thyroiditis increased VCP risk, while higher hospital volume was associated with lower VCP rates.

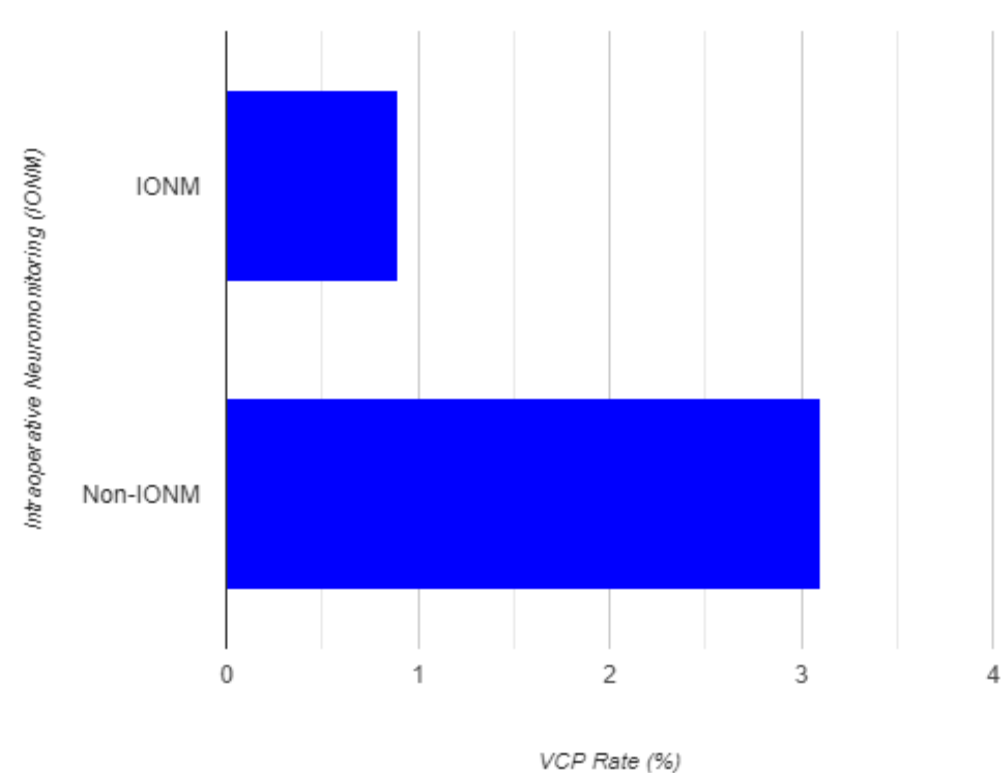
Conclusion:

Despite non-uniform use of postoperative laryngoscopy, this study provides strong evidence that IONM is a common practice and significantly reduces VCP risk in first-time thyroidectomy for benign disease. Hospital volume also plays a crucial role in VCP rates. Further research is needed to explore long-term outcomes and the specific impact of different IONM techniques.

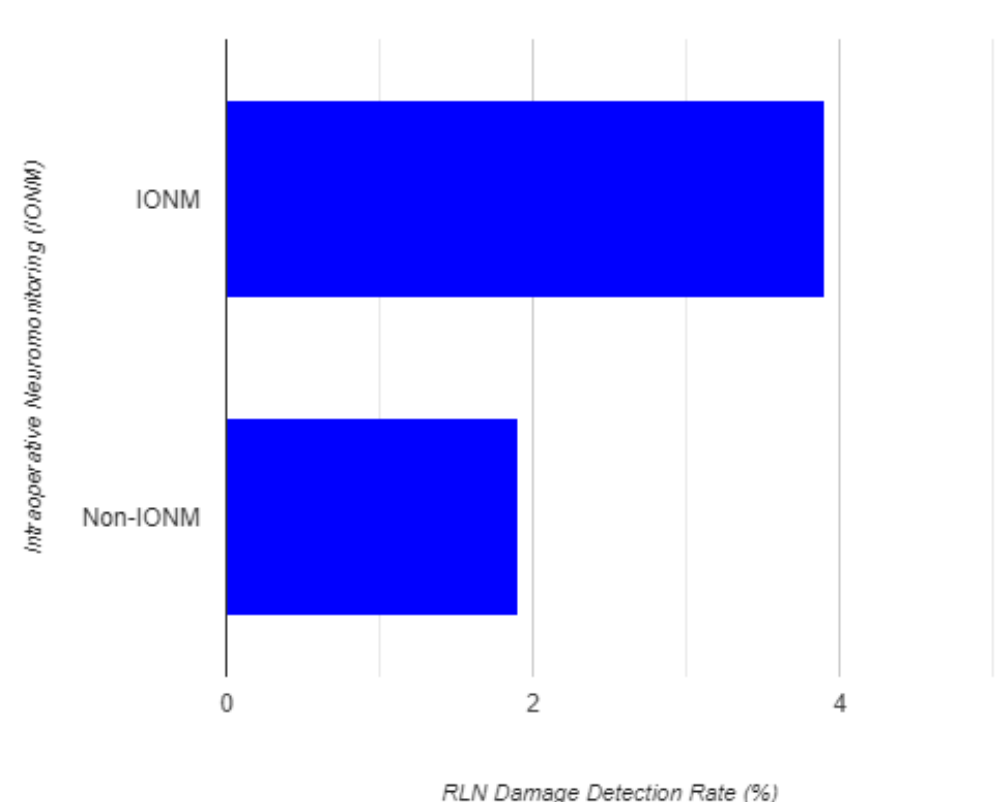
Proportion of Operations Using IONM



Effect of IONM on Vocal Cord Paralysis (VCP) Rates



Effect of IONM on RLN Damage Detection



Reference:

Staubitz J. I., Watzkaet F. , et al. Effect of intraoperative nerve monitoring on postoperative vocal cord palsy rates after thyroidectomy: European multicentre registry-based study. *BJS Open*. 2020 Oct; 4(5): 821–829.