Nerve Monitoring in the Hands of Less Experienced Surgeons

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To the Editor,

We read with interest the paper titled “Is Nerve Monitoring Required in Total Thyroidectomy? Cerrahpasa Experience” by Teksoz et al. in the *Indian Journal of Surgery* [1]. In their study, 322 recurrent laryngeal nerves (RLN) under risk were evaluated. Patients who underwent total thyroidectomy including visual identification of RLN combined with intraoperative neurophysiological monitoring (IONM) were identified as group 1 ($n=162$), whereas those who underwent total thyroidectomy without RLN identification were identified as group 2 ($n=160$). As the results of their study, they clinically supposed that “nerve monitoring does not provide any contribution to an experienced surgeon; however, it might be used to assist less experienced surgeons with anatomical identification”.

In our surgery clinic, IONM is a preferred and well-known procedure in the treatment of thyroid diseases. Based on our experience, this procedure has some limitations and should not be performed by less experienced surgeons. It may be dangerous in the hands of less experienced surgeons. We would like to express our opinion, based on some important questions:

First, the neuromonitoring system has special pitfalls, which have to be described. The amplitude (number of oscillations) of the wave, which was evoked by stimulation of the RLN, is typically a biphasic waveform which represents the summated motor action. During the thyroid surgery, the amplitude may be affected negatively by several factors such as inadequate probe–nerve contact, fluid or blood in the place of

stimulation, covering of the nerve by the fascia, the environmental temperature and endotracheal tube electrode surface position [2]. Second, intermittent RLN monitoring alone was shown to be not accurate enough in predicting RLN injury because lesions at the RLN can be proximal from the stimulation point. The adoption of the IONM technique is precluded by a steep learning curve. Device malfunction may result in unsuccessful monitoring, which could potentially give rise to misleading information and, hence, increase the risk of RLN injury [3]. A false result such as “not nerve” because of the above-mentioned reasons may be very frustrating and dangerous especially for a less experienced surgeon. The surgeon may cut the nerve by misleading information. The initial rule of neuromonitoring is visualisation of the nerve. How could a surgeon with less experience in anatomical identification be adept in neuromonitoring?

Third, in group 2, the authors did not identify the RLN. Additionally, they did not find a statistically significant difference between groups for RLN paralysis. On the other hand, in the literature, routine visualisation of the RLN has been suggested in thyroid surgery. Regarding the identification of RLN and its preservation, it is now believed that the “nerve not seen is damaged” rather than “seen is damaged” as was earlier believed. In their daily surgical practice, do the authors really not identify RLN, or do they perform routine RLN dissection?

Finally, we believe that the main factors influencing a reduction of RLN injury rates are meticulous dissection technique and respect of the gold standard that includes routine visualisation of the RLN.

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