

# WHAT IS THE IMPACT OF CURARIZATION FOR ENDOTRACHEAL INTUBATION ON NEUROMONITORING DURING THYROIDECTOMY ?

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## **Abstract body (should contain maximum 300 words)**

Background: Neuromuscular blocking agents (NMBA) facilitate endotracheal intubation and reduce related laryngeal morbidity. However, NMBA may also interfere with intraoperative neuromonitoring signals during thyroidectomy. The goal of this study was to evaluate the impact of NMBA used during tracheal intubation on early intraoperative neuromonitoring values observed when starting thyroidectomy. Methods: Among 1637 patients who underwent thyroidectomy between November 2014 and February 2018, all consecutive patients operated on by one surgeon were included. Patients underwent endotracheal intubation either using a single dose of curare (rocuronium)(NMBA group) or without curare (NMBA-free group) according to the anesthesiologist's preference, Primary endpoint was vagal V1 and V2 amplitudes observed during the dissection of the first lobe (right side). Data of this pharmaco-epidemiological study were collected prospectively and analyzed retrospectively (NCT03309384). Results: 612 patients were included (216 NMBA and 396 NMBA-free patients). At V1, 39 patients (18%) in NMBA group had an amplitude < 100  $\mu$ V (need for curarization reversal in 30 patients) and 13 patients (3.2%) in NMBA-free group ( $p < 0.001$ ). In the remaining 560 patients, median V1 amplitude was significantly decreased in NMBA group patients (461 versus 570  $\mu$ V;  $p < 0.001$ ). After exclusion of patients with loss of signal type 1 and 2 during dissection ( $n = 26$ ), V2-V1 difference was significantly lower in NMBA group patients (- 36 versus -77  $\mu$ V;  $p = 0,014$ ). Conclusion: This study shows that curarization reversal is needed in 14% of patients. When V1 is > 100  $\mu$ V, NMBA still impact V1 and V2 values but clinical relevance of these data should be evaluated.