



Does intraoperative neuromonitoring of recurrent nerves have an impact on the postoperative palsy rate? Results of a prospective multicenter study

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BACKGROUND: The impact of intraoperative neuromonitoring on recurrent laryngeal nerve palsy remains debated. Our aim was to evaluate the potential protective effect of intraoperative neuromonitoring on recurrent laryngeal nerve during total thyroidectomy.

METHODS: This was a prospective, multicenter French national study. The use of intraoperative neuromonitoring was left at the surgeons' choice. Postoperative laryngoscopy was performed systematically at day 1 to 2 after operation and at 6 months in case of postoperative recurrent laryngeal nerve palsy. Univariate and multivariate analyses and propensity score (sensitivity analysis) were performed to compare recurrent laryngeal nerve palsy rates between patients operated with or without intraoperative neuromonitoring.

RESULTS: Among 1,328 patients included (females 79.9%, median age 51.2 years, median body mass index 25.6 kg/m), 807 (60.8%) underwent intraoperative neuromonitoring. Postoperative abnormal vocal cord mobility was diagnosed in 131 patients (9.92%), including 69 (8.6%) and 62 (12.1%) in the intraoperative neuromonitoring and nonintraoperative neuromonitoring groups, respectively. Intraoperative neuromonitoring was associated with a lesser rate of recurrent laryngeal nerve palsy in univariate analysis (odds ratio = 0.68, 95% confidence interval, 0.47; 0.98, P = .04) but not in multivariate analysis (oddsratio = 0.74, 95% confidence interval, 0.47; 1.17, P = .19), or when using a propensity score (odds ratio = 0.76, 95% confidence interval, 0.53; 1.07, P = .11). There was no difference in the rates of definitive recurrent laryngeal nerve palsy (0.8% and 1.3% in intraoperative neuromonitoring and non-intraoperative neuromonitoring groups respectively, P = .39). The sensitivity, specificity, and positive and negative predictive values of intraoperative neuromonitoring for detecting abnormal postoperative vocal cord mobility were 29%, 98%, 61%, and 94%, respectively.

CONCLUSION: The use of intraoperative neuromonitoring does not decrease postoperative recurrent laryngeal nerve palsy rate. Due to its high specificity, however, intraoperative neuromonitoring is useful to predict normal vocal cord mobility.

From the CHU de Nantes, Clinique de Chirurgie Digestive et Endocrinienne, Nantes, France; CHU Lille, Université de Lille, Chirurgie Générale et Endocrinienne, Lille, France; CHU Nancy-Hôpital de Brabois, Service de Chirurgie Digestive, Hépatobiliaire, et Endocrinienne, Nancy, France; CHU Angers, Chirurgie Digestive et Endocrinienne, Angers, France; CHU de Toulouse-Hôpital Larrey, Chirurgie Thoracique, Pôle Voies Respiratoires, Toulouse; CHU Saint-Etienne-Hôpital Nord, ORL et Chirurgie Cervico-Faciale et Plastique, Saint-Etienne, France; CHU de Limoges-Hôpital Dupuytren, Chirurgie Digestive, Générale et Endocrinienne, Limoges, France; CHU de Besançon-Hôpital Jean Minjoz, Chirurgie Digestive, Besançon, France; Centre Hospitalier du Mans, Service ORL et Chirurgie Cervico-Faciale, Le Mans, France; Centre Hospitalier Lyon-Sud, Chirurgie Générale, Endocrinienne, Digestive et Thoracique, Pierre Bénite, France; AP-HM-Hôpital de La Conception, Chirurgie Générale, Marseille, France; CHU de Rennes-Hôpital Pontchaillou, Service ORL et Chirurgie Maxillo-Faciale, Rennes, France; CHU de Caen, ORL et Chirurgie Cervico-Faciale, Caen, France; CHU d'Angers, ORL et Chirurgie Cervico-Faciale, Angers, France; CHU de Nantes, Service ORL, Nantes, France; AP HP URCEco île-de-France, hôpital de l'Hôtel-Dieu, Paris, France; DRCI, département Promotion, Nantes, France.

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