

## **Loss of signal during thyroid surgery: Preliminary results of an on-going prospective study**

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**Objectives:** Herein, we aimed to evaluate the outcomes of vocal cord function in cases with Type 1 and 2 'loss of signal's after thyroid surgery and investigate false and true positive reasons for 'loss of signal (LOS)' to reach a modality for intraoperative LOS evaluation and management.

**Methods:** This is a prospective evaluation study, based on International IONM Study Group's 'POLT Study', conducted by the Turkish IONM Study Group. Members of the study group were asked to collect data of cases with LOS after thyroidectomy ± central node dissection, having an intact vocal cord, preoperatively. Intermittant or continuous monitoring had been carried out. Loss of signal was defined as amplitude reduction <100µV, and signal delay >10%. The protocol was stressed on demographics, preoperative EMG amplitudes of the vagus and recurrent nerves, LOS Type 1&2, reasons for LOS and postoperative vocal cord examination outcomes. The study started in October 2014.

**Results:** Until now, 21 patients with LOS were recruited. The mean age was 39±10 (18-71) and 90% of cases were female. Operation due to cancer was carried out in 66% of cases. Five (23%) underwent a completion thyroidectomy, 14 (66%) a total or near-total thyroidectomy. Three (14%) received an additional central node dissection. One operation resulted in a bilateral palsy (both Type 2). There were 7 (32%) Type 1 and 15 (68%) Type 2 lesions. Postoperative assesment of vocal cords was normal in 6 (28%) cases, while incomplete palsy was reported in 5 (23%) cases. Traction, coagulation and compression were the reasons for LOS in 62%, 19% and 9% in cases, respectively. Other reasons (10%) will be discussed.

**Conclusions:** LOS resulted with 72% vocal cord paralysis. Stronger data is warranted for late postoperative outcomes and recovery rates of segmental and global loss of signal during thyroidectomy.

**Key words:** thyroid surgery, intraoperative neuromonitoring, loss of signal