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Successful anesthetic management for a medialization thyroplasty in a case of vagus nerve damage from breast cancer recurrence

Zanot A, Alnatour O, Williams U U, Zavala A M, Van Meter A, Kapoor R, Mirza A, Bellard B, and Owusu Agyemang P

University of Texas MD Anderson Cancer Center, USA

Introduction: Medialization thyroplasty is a procedure for voice palliation secondary to vagus nerve damage. An intraoperative voice assessment may be necessary to evaluate the success of the procedure, and anesthetic management should not impair the ability of the patient to follow instructions. We present the case of a patient with unilateral vocal cord paralysis presenting for thyroplasty where the use of local anesthesia provided significant benefits.

Case Report: A 58-year-old female with left unilateral vocal cord paralysis presented for a medialization left thyroplasty with Gore-Tex graft. Two milligrams of midazolam were administered in the preoperative holding area. In the operating room, a propofol infusion was initiated at 75 mcg/kg/min and discontinued after a local anesthetic injection of the surgical site (1% lidocaine with 1:100,000 epinephrine) had been performed by the surgeon. Phenylephrine and oxymetazoline were also administered intranasally. A left thyroid cartilage window was created to enter the periosteum, perichondrium, and the inner perichondrium. A speech pathologist used a nasal fiberoptic scope to inspect the larynx. Under direct visualization, the Gore-Tex was placed behind the vocalis muscle, pushing it medially. Intraoperative voice assessment verified correct placement of the graft. The patient maintained spontaneous ventilation and the procedure was completed without complications.

Discussion: The use of local anesthesia with minimal sedation proved to be successful for many reasons in this case. This modality allowed for real time intraoperative voice assessment and proper placement of the Gore-Tex graft, potentially leading to improved surgical outcomes. Additionally, the use of local anesthesia avoided possible complications of laryngeal mask airway (LMA) insertion. While some studies have performed thyroplasty using an LMA, this modality increases the pharyngeal space and decreases exposure to the surgical field, potentially interfering with vocal cord medialization. Sedatives such as dexmedetomidine may also be administered with local anesthesia to inhibit laryngeal motion and reflexes without impairing respiration, thus allowing for a quiet surgical field and safe intraoperative voice assessment. Performing a thyroplasty while the patient is awake can potentially lead to better surgical outcomes, decreased surgical/anesthesia complications, a more cost and time effective treatment and better tolerated treatment for patients with significant sensitivity to anesthetics.

amzavala@mdanderson.org

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