

Superficial cervical blocks and lidocaine inhalation for awake tracheostomy

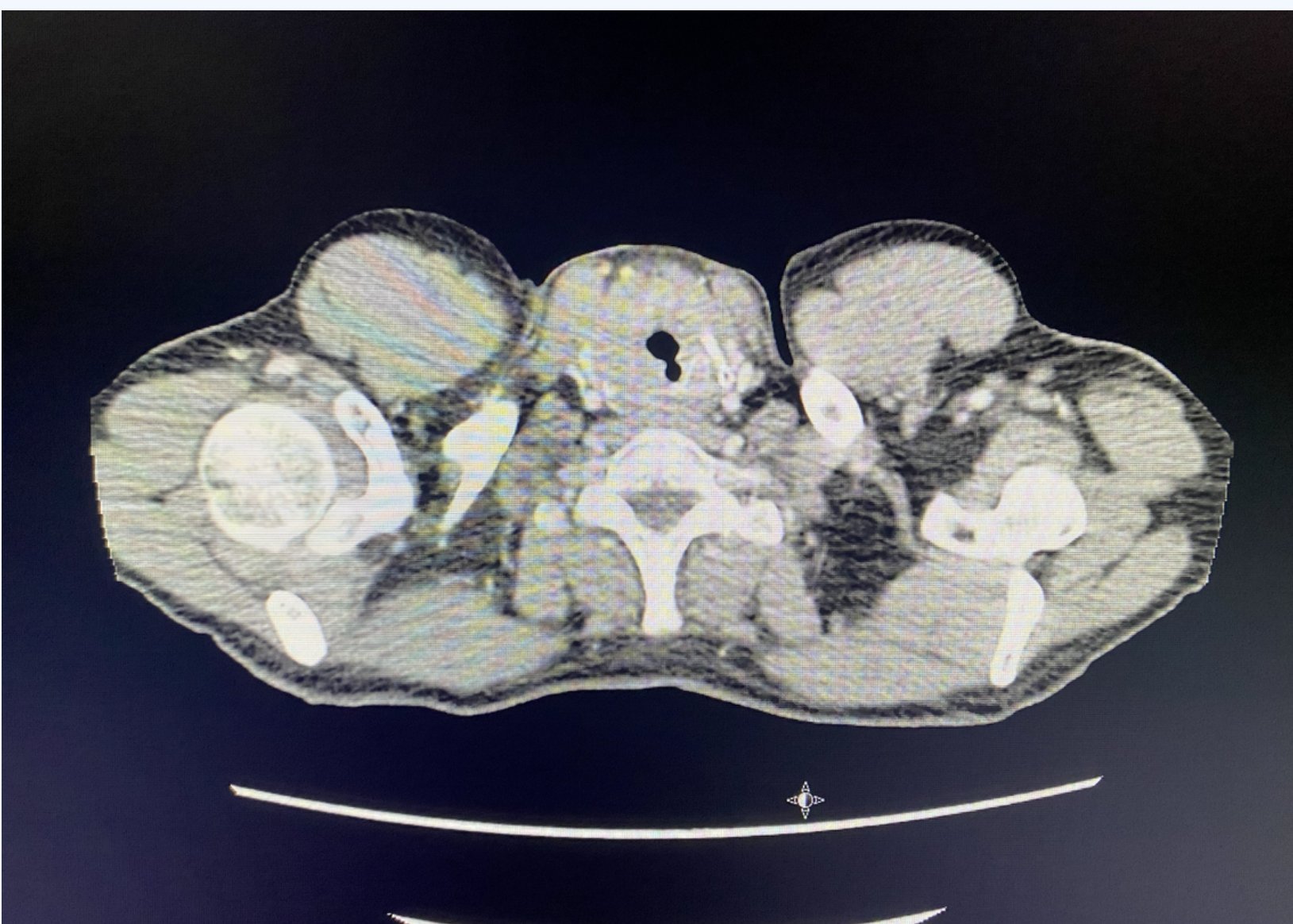
William Pintelon, Manuela Tejada, Gunar Subieta Benito Cook County Health

Introduction

Airway management of an anticipated difficult airway consists of interventions addressing awake tracheal intubation, anesthetized tracheal intubation, or both awake and anesthetized intubation. When the anatomy of the larynx is affected, a surgical airway (tracheostomy) is the sole alternative of care. The anesthetic plan must ensure that an invasive airway is performed as rapidly but as safely as possible. We present an alternative anesthetic approach for this procedure.

Methods

As the case report is devoid of patient identifiable information, it is exempt from IRB review requirements as per Cook County Health policy



Case Report

Demographics	42-year-old male
HPI	Tobacco use (40 pack years) and alcohol use
Symptoms	- First visit: dysphonia - Outpatient ENT clinic: increasing dyspnea, dysphonia, otalgia, dysphagia, odynophagia, fever/chills, and night sweats.
Tests	- Flexible bronchoscopy: right aryepiglottic fullness + bilateral false vocal cord fullness with the true vocal cords being obstructed by the false vocal cords. - Neck CT scan: malignancy along the right aryepiglottic fold that extended to the right false vocal cord and the right true vocal cord
Diagnosis	OR: tracheostomy and biopsy, the pathology revealed the malignancy due to squamous cell carcinoma.
Interventions	- Anesthesia team performed bilateral superficial cervical plexus blocks 5 ml of lidocaine 4% was nebulized and aspirated by the patient - Anxiety: Amidazolam and dexmedetomidine - Airway was secured uneventfully (propofol)

Discussion

Our abstract analyzes the little scientific evidence available regarding the alternative anesthetic approach for the tracheostomy we are presenting.

The retrospective trial study of Baran et al., (148 patients) showed that patients who underwent ultrasonography for the evaluation of anatomical structures along with superficial cervical plexus block (CBP) and trans-laryngeal block before the percutaneous tracheostomy procedure experienced less bleeding, better maintenance of analgesia, and a lower hemodynamic response to pain. Therefore, this group required fewer opioids and propofol use in response to the incision compared to patients who underwent the anatomical landmark technique and local anesthesia infiltration at the site. Additionally, the trans-laryngeal block was effective in preventing gag reflex.

Similarly, the double-blind, randomized study of Sahin et al. showed that combining the superficial cervical plexus block with the trans-laryngeal block provides excellent intraoperative anesthesia and postoperative analgesia with minimal sedation, thus increasing airway safety in most patients with larynx tumors. This combined technique also enhanced tracheostomy tube tolerance and comfort and significantly reduced cough and gag reflex during the procedure in comparison with patients who underwent CBP alone.

In our case, the use of nebulized lidocaine replaced the trans-laryngeal injection in order to avoid direct contact with the mass. The topical anesthesia achieved was appropriate, and the patient had minimal distress during the procedure.

1. BARAN, Onur, Ayhan ŞAHİN, and Makbule Cavidan ARAR. "The Clinical Outcomes of Ultrasonography Usage in Percutaneous Dilatational Tracheostomy in the Intensive Care Unit: A Retrospective Trial." *Namık Kemal Tıp Dergisi* 11, no. 3 (2023).
2. Şahin, Ayhan, Onur Baran, Ahmet Gültekin, Gülcan Gücer Şahin, Tolga Ersözlü, and Cavidan Arar. "Can Ultrasound-Guided Regional Anesthesia Techniques For Tracheostomy Be An Alternative To General Anesthesia?." *Surgical Innovation* 29, no. 2 (2022): 160-168.
3. Koshy, Rachel C., and Hally Thankamony. "Superficial cervical plexus block for urgent tracheostomy." *Indian Journal of Anaesthesia* 63, no. 1 (2019): 65.