

Bilateral Vocal Cord Paralysis in a Patient with Suspected Acromegaly

Nathan Taber, MD¹, Jordan Thompson, MD¹, Allison Spinelli, MD^{1,2}

¹Montefiore Medical Center Department of Anesthesiology, ²Montefiore Medical Center Department of Anesthesiology: Division of Neuroanesthesiology



Learning Objective

Although rare, bilateral vocal cord paralysis represents a clinically significant complication of acromegaly and should be considered in patients presenting with the acromegaly phenotype and clinical signs of respiratory distress.

Case Description

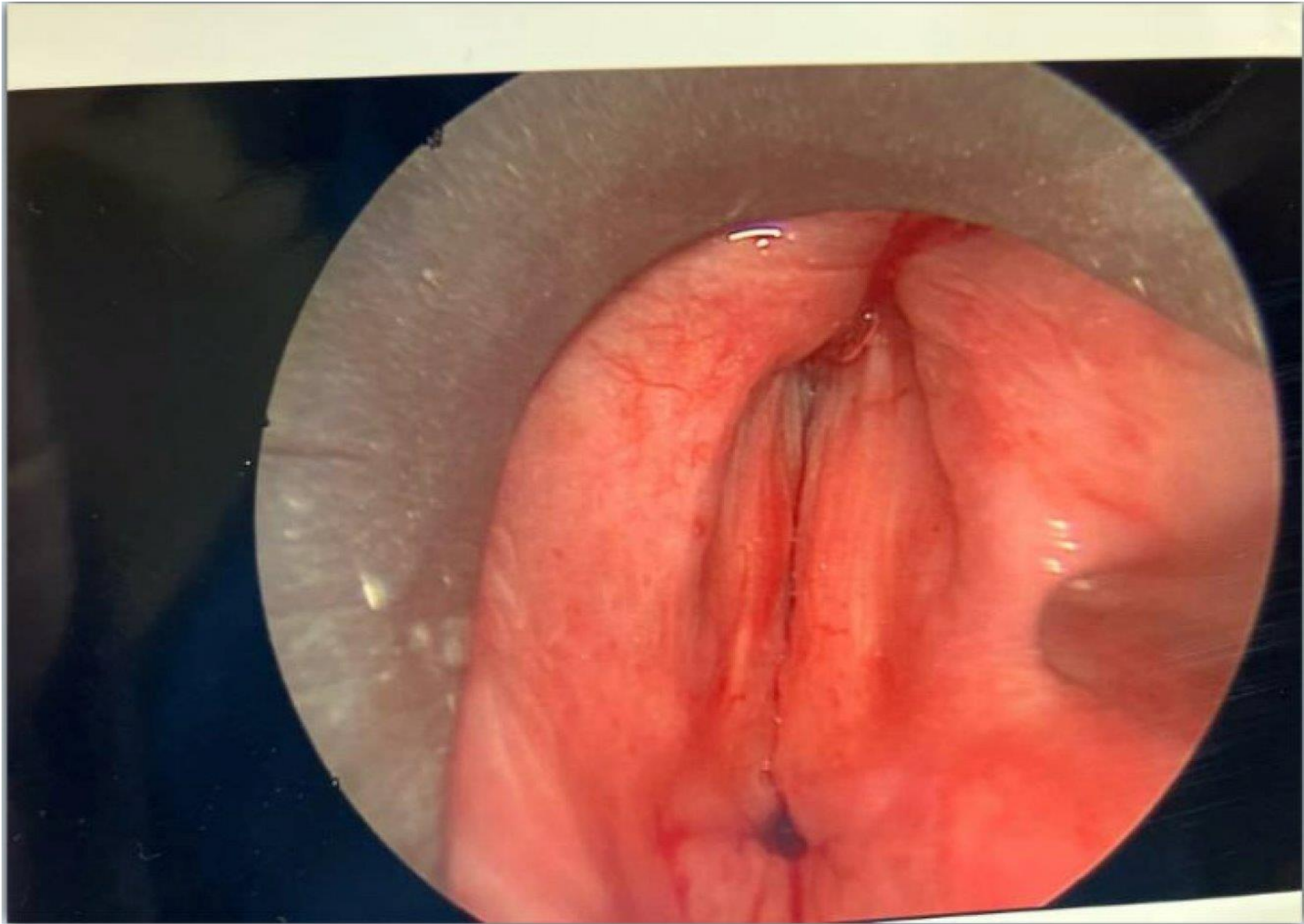
45-year-old man with a past medical history of hypertension and non-insulin dependent type 2 diabetes mellitus presents to the emergency department for stridor

- Recent visit for ENT office for months of progressively worsening nasal congestion, noted to have audible stridor
- Recent outpatient flexible laryngoscopy showed bilateral vocal cord weakness, but was not noted to be in respiratory distress
- In the ED, noted to be saturating 100% on room air, and denied dyspnea
- Labs showed acute hypercapnia, for which ENT was consulted
- Flexible laryngoscopy in the ED showed, limited true vocal fold abduction with very narrow glottic opening
- Decision was made to bring patient emergently to the OR for intubation and tracheostomy creation

Perioperative Course

- Patient was brought into the operating and connected to monitors
- Preoxygenated with 100% FiO₂ at 15LPM for 2 minutes
- Rapid sequence induction performed with fentanyl, propofol, and succinylcholine
- Intubation performed with Glidescope Size 4 Blade and 7.5 endotracheal tube – grade 2b view was obtained and the tube was pass atraumatically through the cords
- Other than mild hypotension, treated with phenylephrine, operative course proceeded well without complication
- Tracheostomy was performed, orotracheal tube was removed and the patient was emerged from anesthesia and transported to PACU in stable condition

Glottis of our Patient



The above image shows the aboducted vocal cords of our patient

Postoperative Course and Follow Up

- Post-operatively the patient was recovered in the PACU before transfer to the surgical step-down unit
- Endocrinology consulted for acromegnaly phenotype
 - IGF-1 elevated
- MRI Brain: "8 x 9 mm heterogeneously enhancing mass in the right aspect of the sella displacing the pituitary stalk to the left"
- Acromegaly diagnosis was confirmed, and patient was scheduled for transphenoidal resection

Laryngeal Anatomy

- Third to sixth cervical vertebrae
- Contains epiglottis and vocal cords and extends from the superior border of the epiglottis to the cricoid cartilage
- The muscles of the larynx
 - Cricothyroid – innervated by external branch of superior laryngeal nerve
 - All others – innervated by recurrent laryngeal nerve (lateral cricoarytenoid, posterior cricoarytenoid)

Anesthetic Relevance

- Anesthesiologists must be prepared to manage challenging airways
- Having access to as many tools as possible increases likelihood of airway success
- The anatomic changes in acromegaly can make intubation and mask ventilation particularly difficult
 - Laryngeal involvement of acromegaly can make this more challenging due to urgent/emergent nature of these cases
- This case shows the feasibility of utilizing video laryngoscopy using Glidescope to obtain airway access
- Highlights the importance of the anesthesiologist's mastery of all airway techniques

Acknowledgements

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