



Albany Medical Center

Airway Management in Severe Cervical Dystonia: A Case of Awake Nasal Fiberoptic Intubation

Andrew Fahim BS, Michael Hoole MD, Sujatha Nigam MD

Albany Medical College, Albany Medical Center Department of Anesthesiology

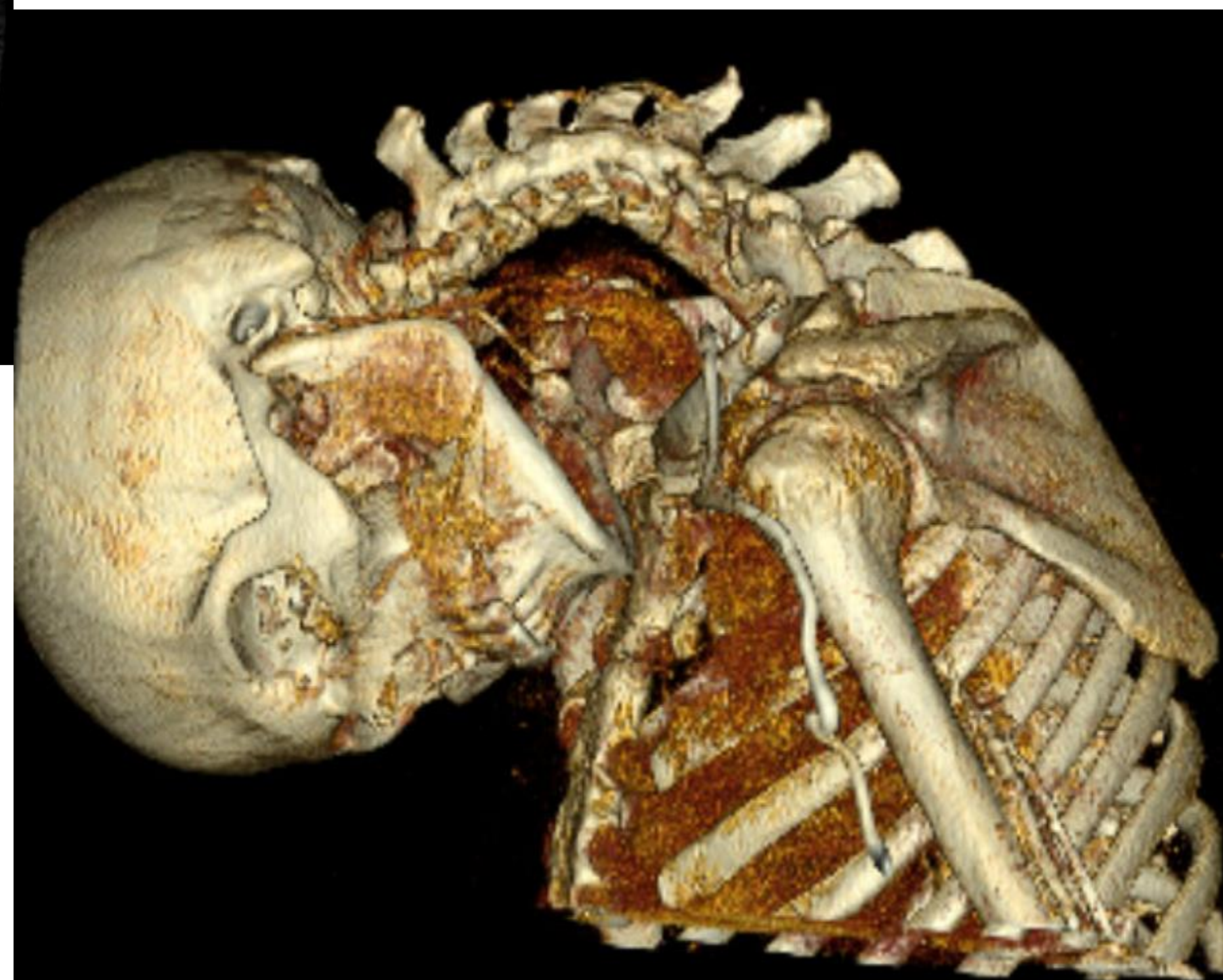
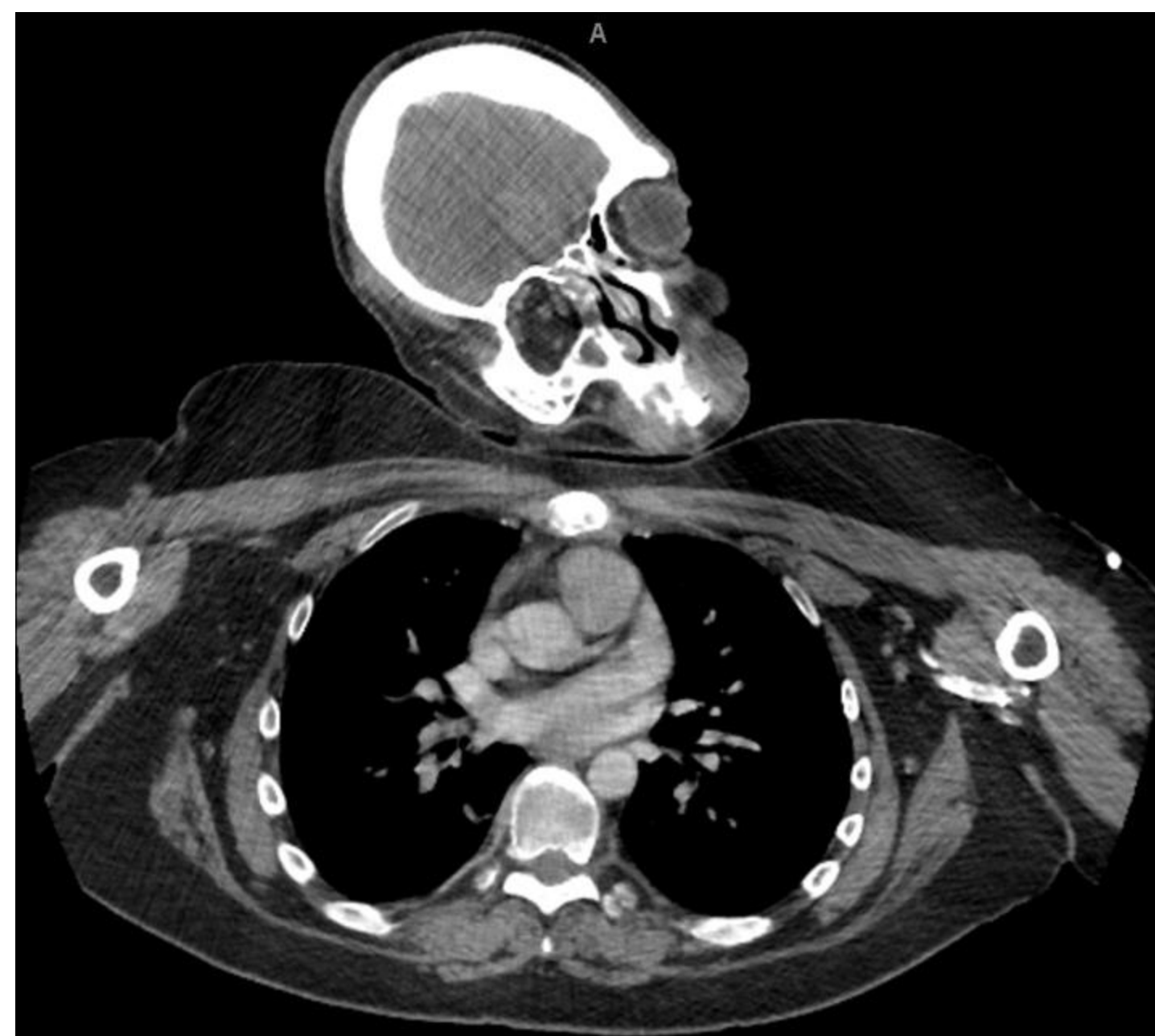


ALBANY
MEDICAL
COLLEGE

Learning Objective: Airway management strategies in patients with fixed cervical dystonia and limited access for conventional intubation techniques.

Introduction

Background: This patient suffers from severe cervical dystonia that has progressed since 2020 resulting in a static severe anterocollis left rotation and right tilt. Patient was tried on baclofen, Botox injections, and physical therapy with no significant improvement. Neurosurgery considered unilateral DBS for symptom improvement but require an MRI before proceeding.



Case Description

29 year-old male with severe cervical dystonia presented for MRI prior to DBS placement. Patient required general anesthesia for MRI due to anxiety and history of tremor.

- Preoperative evaluation and review of prior CT imaging revealed severe angle of approach from oropharynx to hypopharynx and absence of cervical mobility in any direction.
- Prior to imaging, the patient was taken to the OR for controlled induction and intubation environment. The patient was preoxygenated with NC, POM mask placement attempted but unsuccessful secondary to cervical positioning. Emergency airway equipment in room.
- Multiple options were prepared for intubation including video laryngoscopy, flexible bronchoscopy, oral airways as well as oral and nasal intubation equipment.
- Awake intubation was initiated using dexmedetomidine, low-dose midazolam, and ketamine while monitoring spontaneous ventilation. Initial video laryngoscopy failed due to mechanical obstruction by the patient's chest. Oral fiber optic attempts were unsuccessful due to anatomical angles within the oropharynx.
- Nasal fiberoptic intubation successfully identified vocal cords and carina and the airway was secured with oral ETT (7.0) through the left naris.

Case Discussion

This case highlights the importance of anesthetic preparation in patients with complex cervical deformities such as severe cervical dystonia. In this patient, traditional intubation techniques such as direct laryngoscopy and video-assisted laryngoscopy were unsuccessful due to extreme neck flexion and left-facing head rotation resulting in restricted oral access. After failed attempts at an oral airway, nasal fiberoptic intubation became the most viable option. Doing an awake intubation with preserved spontaneous ventilation was especially important considering this anatomically difficult airway. The success of this case relied on proactive airway planning and real-time decision-making by multiple airway expert personnel in the OR.

This scenario also underscores the need to consider patient-specific anatomy when choosing intubation tools. Although video laryngoscopy is often the first-line tool in difficult airways, it may not be feasible in cases with extreme anatomical constraints. Nasal fiberoptic bronchoscopy—often underutilized—remains an essential technique in the anesthesiologist's toolbox, especially when oral access is compromised. Ultimately, maintaining flexibility and preparing multiple strategies allowed for safe and effective airway management in a challenging patient, reinforcing the value of situational awareness, technical skill, and comprehensive planning in complex airway cases.

References

Zhang X, Wang J, Liu Y, Li Z, Han B. A rare case of difficult airway management in a Klippel-Feil syndrome pediatric patient with osseous torticollis undergone orthopedic surgery : Difficult airway in pediatric patient with torticollis. BMC Anesthesiol. 2021;21(1):121. Published 2021 Apr 19. doi:10.1186/s12871-021-01341-6.

Mac TB, Girard F, McKenty S, et al. A difficult airway is not more prevalent in patients suffering from spasmodic torticollis: a case series. Can J Anaesth. 2004;51(3):250-253. doi:10.1007/BF03019105.

Comparison of McGrath Videolaryngoscope and Macintosh Laryngoscope in Children with Torticollis: Randomized Controlled Trial.

Conclusion

- Anesthesia providers must be fully prepared for difficult airways with multiple alternatives and strategies before induction.
- In cases of challenging oropharyngeal access, awake nasal fiberoptic intubation can be a safe strategy for securing the airway