

Traumatic GlideScope® video laryngoscopy resulting in perforation of the soft palate

Adam W. Amundson, MD · Toby N. Weingarten, MD

Received: 9 October 2012 / Accepted: 8 November 2012 / Published online: 22 November 2012
© Canadian Anesthesiologists' Society 2012

To the Editor,

A 39-yr-old man with a known difficult airway was scheduled to undergo stabilization of a right fibula fracture. Adhering to the manufacturer's four-step technique (below), a GlideScope video laryngoscope (Verathon®, Medical Inc., Bothell, WA, USA) was used to facilitate placement of the endotracheal tube (ETT) with the aid of a Rigid Stylet®.¹ The GlideScope manufacturer describes the four-step technique as follows: 1) look directly into the mouth to introduce the video laryngoscope; 2) look at the monitor to identify the epiglottis and obtain the best view; 3) look back into the mouth to guide the ETT carefully into position near the tip of the laryngoscope; 4) look back at the monitor to intubate the trachea. Slight resistance was noted as the ETT was advanced through the oropharynx until it was visualized on the GlideScope monitor. At completion of surgery, blood was noted in the oropharynx, and further examination revealed that the ETT had perforated the right anterior tonsillar pillar (Figure, panel A). The ETT was then removed revealing the defect through the pillar (Figure, panel B). The laceration was repaired with mattress sutures; the patient's trachea was extubated without incident, and he made a full recovery.

This case shows a complication of endotracheal intubation using a video laryngoscope. Cases have been reported of trauma to the oropharyngeal structures during video laryngoscope-assisted endotracheal intubations with ETTs loaded with rigid stylets.^{2–4} When the ETT is

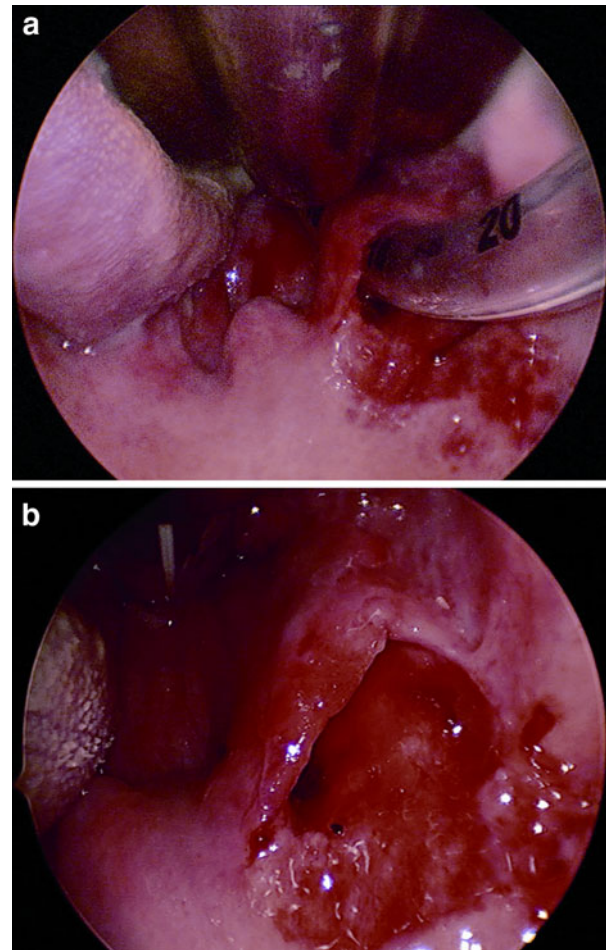


Figure Panel A) The endotracheal tube, which was placed under GlideScope guidance, has perforated the right anterior tonsillar pillar. The laryngoscope is the structure at the top of the image, the uvula is at the bottom, and the tongue is on the left side. **Panel B)** The endotracheal tube has been removed, allowing for visualization of the perforation of the anterior tonsillar pillar

A. W. Amundson, MD · T. N. Weingarten, MD (✉)
Mayo Clinic College of Medicine, Mayo Clinic,
Rochester, MN, USA
e-mail: weingarten.toby@mayo.edu

advanced past the base of the tongue and across the oropharynx, it proceeds through a “blind spot” where the operator cannot visualize the ETT on the display screen and trauma can occur.^{2,5} When using video laryngoscopes, it is imperative to follow the four-step technique with special emphasis on keeping direct visual contact with the tip of the ETT as far as possible into the oropharynx before looking at the monitor of the video laryngoscope. This practice will minimize the distance of the blind spot. To mitigate the risk of trauma once the ETT is in the blind spot, the ETT should be advanced carefully without resistance until it is visualized on the screen.

Competing interests None declared.

References

1. *Walls R.* A Clinician’s Guide to Video Laryngoscopy: Tips and Techniques. NY: McMahon Publications; 2009. p. 16-8.
2. *Leong WL, Lim Y, Sia AT.* Palatopharyngeal wall perforation during GlideScope intubation. *Anaesth Intensive Care* 2008; 36: 870-4.
3. *Vincent RD Jr, Wimberly MP, Brockwell RC, Magnuson JS.* Soft palate perforation during orotracheal intubation facilitated by the GlideScope videolaryngoscope. *J Clin Anesth* 2007; 19: 619-21.
4. *Magboul MM, Joel S.* The video laryngoscopes blind spots and possible lingual nerve injury by the Gliderite rigid stylet—case presentation and review of literature. *Middle East J Anesthesiol* 2010; 20: 857-60.
5. *Dupanovic M.* Maneuvers to prevent oropharyngeal injury during orotracheal intubation with the GlideScope video laryngoscope. *J Clin Anesth* 2010; 22: 152-4.