Traumatic Transpalatal Perforation as a Complication of Intubation with Videolaryngoscopy

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INTRODUCTION

The GlideScope® videolaryngoscope is an invaluable tool for managing challenging airways. It enables a superior view of the glottis for endotracheal intubation.[1] However, complications related to oropharyngeal trauma have been reported. Here we present a case of traumatic transpalatal perforation during intubation with a video-laryngoscope.

CASE REPORT

A 67-year-old male was taken to the OR for a routine ophthalmologic procedure. History was notable for cardiac stents requiring anticoagulation with clopidogrel, and previous uvulopalatopharyngoplasty performed for snoring. The first attempt at intubation was unsuccessful. A GlideScope® was then used to pass an endotracheal tube under video-guided visualization of the larynx.

Shortly after intubation, the patient was noted to have profuse bleeding from his mouth. Exam showed the 7.5 endotracheal tube impaled through the right tonsillar pillar with associated hemorrhage (Figure 1).

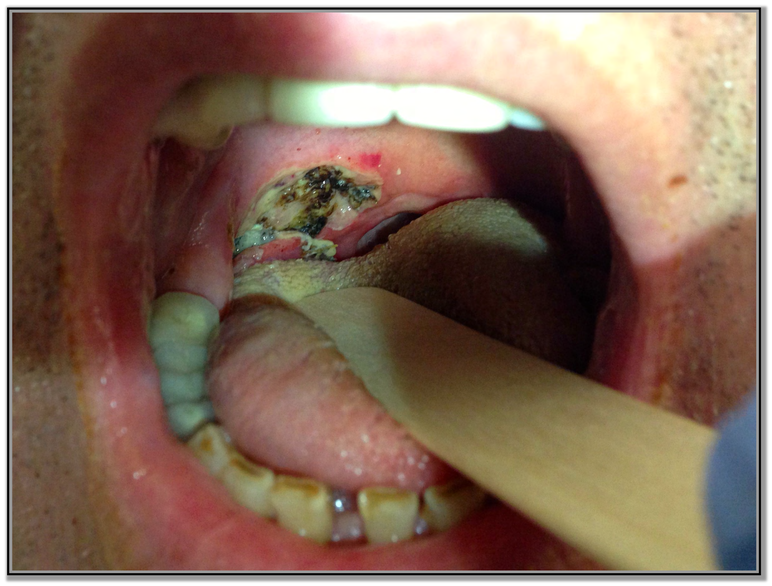
Figure 1. Endotracheal tube perforating the soft palate and before entering the trachea.

After discussion with the anesthesia team, an incision was made through the right anterior pillar to release the endotracheal tube, which was then moved over to the left side of the oral cavity. A Crowe Davis mouth gag was inserted and placed into suspension providing improved visualization. Hemostasis was achieved with monopolar suction cautery under direct visualization, with diffuse bleeding noted from multiple sites along the laceration. The pillar was repaired using interrupted absorbable sutures. The patient was awakened and extubated, and observed overnight without further bleeding. Anticoagulant medications were restarted the following day. Figure 2 shows the oropharynx postoperatively, with the suture line intact and early healing visible.

DISCUSSION

Complications of videolaryngoscopy include trauma to the palate, tongue, and lingual nerve.[2–5] Trauma is more prevalent on the right side,[3] due to right-handedness of the majority of anesthesiologists.

Figure 2. Postoperative photograph demonstrating healing of the repaired soft palate.



Additionally, the exceptional rigidity and curvature of the stylet may increase the potential for trauma.[5–7] These complications result from a combination of improper technique and the inherent limitations of videolaryngoscopy. Clinicians focus on the view of the larynx as seen on the monitor screen without adequate direct visualization of other tissues.

Proper technique should consist of: (1) introduction of the laryngoscope into the oral cavity under direct visualization; (2) assessment of the larynx and epiglottis on the monitor; (3) introduction of the ETT under direct visualization; (4) placement of the ETT through the vocal cords using the monitor display.[8,9] One of the difficulties with this technique is a "blind spot" encountered after the operator loses direct visualization but before the tip of the ETT appears on the monitor; this usually happens in the oropharynx.[9]

CONCLUSIONS

Otolaryngologists must be aware of the risks inherent to videolaryngoscopy, including oropharyngeal trauma. Management requires careful consideration of an extubation plan in patients at risk for bleeding.

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