Recurrent endotracheal tube leak: ask and take a look

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To the Editor,

Video laryngoscopy (VL) has emerged as one of the most clinically significant advances in airway management. Compared with direct laryngoscopy (DL), VL allows a superior view of the larynx without the need for direct alignment of structures.¹ We report a case of an unexpected incidental finding that was not seen in two prior attempts at DL, that could have led to disastrous consequences if not addressed. The patient gave written consent for publication of this report.

A 71-yr-old male with a history of cardiac transplant and endovascular repair of an iliac artery aneurysm was transferred to the operating room with a leaking graft for emergency coil embolization and placement of a new stent. Following rapid sequence induction, laryngoscopy was carried out with a 3.0 Macintosh blade, revealing a grade 2 Cormack-Lehane view. The patient's trachea was then intubated and subsequently extubated after the surgical procedure. Ten minutes afterwards, the patient became restless and agitated, and his trachea required reintubation using the same technique. He was then transferred to the intensive care unit (ICU). Forty-five minutes after his transfer to the ICU, we were asked to exchange the endotracheal tube (ETT) because of a cuff leak. The procedure was completed using an indirect channelled optical laryngoscope, the AirtraqTM (Prodol Meditec S.A. Las Arenas, Spain), and the ETT was placed on the first attempt.

However, when the cuff was inflated, a new cuff leak was detected immediately. A new ETT was loaded and another attempt was made; however, this time we observed an object with a ragged edge situated just behind the left arytenoid cartilage. We made an unsuccessful attempt to reach the object with Magill forceps. We performed another DL with a longer 4.0 curved blade, and we were able to see the edge of a mobile object and removed it very gently (Figure). The patient's trachea was reintubated without further complications.

This case raises two important airway related issues. First, VL provided better exposure and detail of the laryngeal structures, which allowed us to determine the cause of a recurrent cuff leak that was not apparent during tracheal intubation with DL. This could have been a lifesaving maneuver, and if left in place, the device could have caused esophageal or gastric perforation, fistula formation, and even death. Second, with an increasing population of elderly patients, there is a high likelihood of encountering patients who wear complete or partial dentures and other dental appliances.² Traditionally, a patient's dentures are removed before surgery due to concerns that they may be dislodged, potentially obstruct the airway, and subsequently cause aspiration. The timing of removal remains controversial, since bag-mask ventilation can be compromised by this practice.³ The presence of dentures or other appliances might not be apparent in uncooperative or unconscious patients. Dental appliance and fragment dislodgment can occur in many circumstances, especially in victims of trauma, and if not suspected and recognized, the displacement can lead to serious consequences. Direct questioning regarding the use of dentures should be an integral component of the routine airway evaluation. In high-risk groups, such as trauma patients and patients with facial trauma in particular, a high index of suspicion should

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Figure The dental appliance that was lodged in the patient's pharynx just behind the left arytenoid cartilage

be maintained regarding displacement, swallowing, and aspiration of native or artificial dental structures.

Competing interests None declared.

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