Letters to Editor

The Diameter Index Safety System (DISS) could have successfully prevented such a dangerous assembly of the resuscitation bag. It has been successfully proved in anesthesia gas supply and anesthesia delivery systems. Thus, we recommended that DISS should be introduced to the resuscitation bags to avoid such deadly arrangements.

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There are no conflicts of interest.

Akshaya Narayan Shetti, Bhavika Singla, Rachita G. Mustilwar

Department of Anesthesiology and Critical Care, Rural Medical College, Pravara Institute of Medical Sciences, Department of Periodontology and Implantology, Rural Dental College, Loni, Department of Anesthesiology, Lokmanya Tilak Municipal Medical College, Lokmanya Tilak Municipal General Hospital, Mumbai, Maharashtra, India

Address for correspondence:
Dr. Akshaya Narayan Shetti, Department of Anesthesiology and Critical Care, Rural Medical College, Pravara Institute of Medical Sciences, Loni (Budruk), Maharashtra, India.
E-mail: aksnsdr@gmail.com

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Aspiration of severed tracheal tube: An anesthesiologist’s nightmare

Sir,

A 23-year-old male, weighing 50 kg, presented to us with cervical spine injury. He was diagnosed to have C5–C6 Grade I anterolisthesis with canal compromise and underwent cervical spine instrumentation. His intraoperative course was uneventful, but we did not extubate his trachea in view of poor preoperative cough reflex and he was shifted to intensive care unit (ICU) with tracheal tube (TT) in situ for further management. In the ICU, the position of the TT was confirmed and TT was fixed (at 22 cm mark) at the right angle of the mouth along with a bite block (VBM Medizintechnik GmbH, Einsteinstr, Germany). Infusion of fentanyl and midazolam was started, and the patient’s lungs were mechanically ventilated.

After few hours, suddenly, there was alarm in the ventilator about air leak and the patient had progressive desaturation (pulse oximetry displayed signal value below 80%) with cyanosis. The patient became unconscious and tightly clenched his jaw. Immediately, direct laryngoscopy was performed after administering 80 mg of succinylcholine and 100 mg of propofol. We noticed the TT broken at 18 cm mark with one part attached to the bite block but the remaining part was missing. On careful search for the missing portion, we noticed a small tip of TT visible through the vocal cord [Figure 1]. The intratracheal portion was then extracted successfully using a pair of Magill’s forceps and his trachea was reintubated with 8.0 mm ID-cuffed TT. The duration of the tube aspiration to the reintubation was <3 min. Ten minutes after the event, he regained consciousness and became fully awake. Evaluation of the trachea and bronchus with a fiberoptic bronchoscope done later on did not reveal any internal injury. The patient had a stable ICU course without any neurological deficit and his trachea was extubated after 4 days. We obtained consent from the patient’s relative for this case report.
Tracheal or tracheostomy tube dislocation is one of the major causes of adverse patient outcome in an ICU and it can happen in spite of all precautions during tracheal suctioning, coughing, abrupt wakening, or discontinuing sedative drug infusion. In our case, the TT got severed in spite of having a properly fixed bite block in situ and the patient aspirated a fragment of the severed TT. This highlights two issues, i.e., the TT can break in spite of the bite block and patient can aspirate a fragment of TT. A bite block usually protects the TT from biting by the patient, but in our case, the TT broke because of the pressure from bite block as clearly evident from Figure 1. Normally, an intact cough reflex prevents entry of any foreign substance deep into trachea. However, in our case, the TT cuff got deflated after being broken, and because of the impaired cough reflex, it entered so deep into the tracheobronchial tree that it became barely visible during direct laryngoscopy causing difficulty in its localization and removal and subsequent airway obstruction. To the best of our knowledge, this is the first reported case of aspiration of TT in the presence of a bite block causing total airway obstruction in a case of cervical spine injury.

There are very few reports of TT aspiration in the available literature. In one report, following an inability to remove the aspirated TT, the authors re-intubated the patient’s trachea with a smaller TT through the larger aspirated TT. In another report, in a child, the aspirated TT was removed with the help of Magill forceps. The importance of chest X-ray, computed tomography scan, and bronchoscopy during the management of aspirated TT has been discussed previously in few case reports. However, in our case, the patient’s condition precluded radiological evaluation. There are even reports leading to death following aspiration of tube. This report highlights the fact that the bite block used to prevent injury to TT can be a cause of fragmentation of TT, and there is always a possibility of broken TT aspiration in patients with poor cough reflex, especially in cervical spine injuries. Hence, a high index of suspicion is warranted in cases where the patients’ cough reflex is poor.

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Neeraj Kumar, Surya K. Dube1, Hirok Roy1, Gyaninder P. Singh1, Bikram Kumar Gupta2
Department of Anaesthesiology, All India Institute of Medical Sciences, Patna, Bihar, 1Department of Neuroanaesthesiology and Critical Care, All India Institute of Medical Sciences, New Delhi, 2Department of Anaesthesiology and Critical Care, Institute of Medical Sciences, BHU, Varanasi, Uttar Pradesh, India

Address for correspondence:
Dr. Surya K. Dube,
Department of Neuroanaesthesiology and Critical Care, 7th Floor Neurosciences Centre, All India Institute of Medical Sciences, New Delhi -110 029, India.
E-mail: surya.dube@yahoo.co.in

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