

Loss of integrity of a reinforced endotracheal tube by patient bite

Sir,

A 30-year-old male patient, a victim of assault, underwent CSF leak repair, multiple scalp wound suturing and open reduction internal fixation of left ulna and patella under general anaesthesia. The airway was secured using a new disposable flexometallic endotracheal tube (Mallinckrodt, Covidien Ireland LTD). After the reversal of neuromuscular blockade, the patient was breathing spontaneously through the endotracheal tube but gradually his breathing become irregular as he was biting on the tube. A loud whistling sound was heard with each inspiration effort. The patient was not getting ventilated adequately; his oxygen saturation was 80-85%. Additional dose of propofol and atracurium was given to control patient's ventilation. At this point it was realized that the patient had bitten the reinforced tube resulting in leakage through the tube. Patient was ventilated with a finger occluding the leakage till he again started breathing spontaneously. A second dose of neostigmine and glycopyrrolate was administered after which the trachea could be extubated uneventfully. The tube was found to be bitten and cut at one point with the wire coils intact [Figure 1].

The metallic coils of the reinforced Portex tube do not safeguard against bite, thus causing compression and obstruction of the tube and subsequent leak. There are instances in the literature where biting on the reinforced tube has caused compression of the metal coils and airway obstruction.^[1,2] Chalkeidis *et al.*



Figure 1: Loss of integrity of a reinforced endotracheal tube

presented a case where the airway was compromised due to bite causing leak in the tube intra-operatively during a neurosurgical operation.^[3] They were using motor evoked potentials and avoided muscle relaxants during the time of monitoring. Masseter muscle contractions resulting from the use of motor evoked potentials caused biting of the tube.

In our case a Guedel airway could have been used as a bite block during reversal of the muscle relaxant. The patient had bilateral nasal packs in place and after 7 h of surgery; turbulent emergence was a possibility and should have been anticipated. At our centre we do not routinely use Guedel's airway as it can cause damage to the mucosa of the oral cavity and may cause oedema of the pharynx. Retrospectively, we feel that a bite block should have been placed before reversal of the neuromuscular block to prevent this complication.

A reinforced endotracheal tube should not be taken as a safeguard against airway obstruction and the anaesthesiologist should be aware that reinforced endotracheal tube can get damaged due to bite of the patient. Use of an oral airway or bite block may prevent this complication from occurring.

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