

An unusual complication with xylocaine spray in microlaryngeal surgery

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■ The Editor:

Topical lidocaine spray is commonly used to anaesthetise vocal cords and supraglottic structures, and to blunt the intubation and extubation responses.¹ Application of local anaesthetic reduces the sympathetic response that occurs as a result of the stimulation of the larynx.² Complications with this technique are rare.³ We encountered an unusual and unforeseen complication whilst using lidocaine spray in the airway of a patient undergoing microlaryngeal surgery (MLS) for a right vocal cord nodule.

A 40-year old male, weighing 70 kg, ASA grade I, with the diagnosis of a right vocal cord nodule was booked for excision of the nodule. He was premedicated with alprazolam 0.25 mg the night before surgery, and also two hours before surgery. After the application of monitoring for pulse oximetry, non-invasive blood pressure (NIBP) and electrocardiography (ECG), appropriate intravenous access was obtained, and the patient was anaesthetised with propofol 150mg and fentanyl 100 μ g. Following vecuronium (6mg), direct laryngoscopy revealed a Cormack-Lehane grade I view, and his trachea was intubated with a size 5.5 mm microlaryngeal tube. Surgery lasted for 30 minutes, and the intraoperative period was uneventful. At the end of surgery, hydrocortisone 100 mg was given intravenously to reduce the laryngeal oedema, and his vocal cords were sprayed with 2 puffs of xylocaine spray (*Nummit*), in order to reduce the reflex sympathetic response. Immediate deposition of brownish black particles on the vocal cords was noticed. An attempt was made to remove these particles by wiping the cords with wet gauze. This was successful. The patient was reversed with neostigmine 0.05mg.kg⁻¹ and glycopyrrrolate 0.01mg.kg⁻¹ and extubated uneventfully when fully awake. On closer inspection of the spray, the nozzle of the long delivery tube was found to be rusted from the inside.

In our institution, it is routine practice to spray xylocaine on the vocal cords prior to extubation, in order to prevent post-extubation laryngospasm after microlaryngeal surgery. We have two types of xylocaine sprays available; one with a plastic nozzle and the other with a metallic one. To the best of our knowledge, this kind of complication has not been reported in the literature to date. Dutta et al reported the dislodgement of the tip of the

plastic nozzle into the larynx whilst spraying the vocal cords prior to intubation. The nozzle tip was subsequently retrieved from the right main bronchus.⁴ On the other hand, the potential complication of the metallic nozzle, which the authors encountered, was the deposition of brownish black particles. These particles had come from the tip of the metallic nozzle of *Nummit* spray. They had most probably formed due to the contact of liquid xylocaine in the metal in the nozzle, although it was a new spray. We corresponded with the manufacturers, who could not explain the reason why it had occurred.

In our patient, the presence of the endotracheal tube had prevented particles from migrating into the lower airways. Such a complication is hazardous in anticipated difficult intubations, where the trachea is unprotected. Also, the patient will not be able to cough these particles out effectively, due to a partially anaesthetized airway.

The authors recommend that the nozzle of the spray should be made of plastic, and if metallic, should be of a non-reactive material.

References:

1. Hammil JF, Bedford RF, Weaver DC, Colohan AR. Lidocaine before tracheal intubation: intravenous or laryngotracheal. *Anesth* 1981; 55:578–81.
2. Donlon JV, Doyle DJ, Feldman MA. Anaesthesia for Eye, Ear, Nose and Throat Surgery. In: Miller RD, ed. *Miller's Anesthesia*. Penns: Elsevier Churchill Livingstone, 2005, 6th edition. Page 2542.
3. Raphael H, Stanley GD, Langton JA. Effects of topical benzocaine on upper airway reflex sensitivity. *Anaesth* 1996;51:114–18.
4. Dutta A, Jain K, Chari P. Iatrogenic foreign body in the bronchus. *Anaesth* 2000;55:1036–7.