

an axillary lymph node simulating metastatic malignant melanoma. *Int Semin Surg Oncol* 2005; 1: 28.

Reply:

We thank Dr. Kuczkowski for his interest in our letter. However, we disagree with several of his arguments regarding the clinical implications of lumbar tattoos and neuraxial anesthesia. The link between acute symptoms occurring after epidural catheter siting through a lumbar tattoo, and potential spinal irritation due to pigments,¹ are somewhat speculative. The described symptoms may occur in association with any epidural procedure. Several carcinogenic aromatic amines have indeed been detected in tattoo inks.^A However, Dr. Kuczkowski provided somewhat incomplete data. Vasold et al.² found hazardous compounds in two pigments which were initially absent, but resulted from a photo-decomposition reaction after laser therapy.² All related evidence is from *in vitro* data. Little is known about the concentration of pigments and byproducts which exist *in vivo* in the tattooed skin, and it is unclear whether or not such compounds embedded in the skin are biologically active.³

Finally, tattoo pigments may migrate into regional draining lymph nodes and mimic a metastatic melanoma because of local black discoloration. This benign physiological process had unanticipated consequences in our management of a tattooed patient with melanoma. However, we do not consider this to be a true "complication" of tattooing, and this observation was unrelated to the management of this particular case.

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An airway exchange catheter contributing to airway obstruction

To the Editor:

We report the case of a 51-yr-old female, weight 126 kg, who was scheduled for a diagnostic panendoscopy to investigate a lesion occupying approximately 60% of her subglottic diameter that had caused progressive shortness of breath, hoarseness, and inspiratory stridor. Her past medical history included hypertension, obesity, and obstructive sleep apnea. Examination revealed a large neck circumference with normal range of motion and a Mallampati class II airway.

In the operating room, her trachea was intubated with a size 5 MLT® tube (Mallinckrodt Inc., St. Louis, MO, USA) after induction of general anesthesia using propofol, fentanyl and rocuronium. Anesthesia was maintained with propofol and remifentanyl infusions and intermittent doses of rocuronium. Surgical examination revealed the subglottic mass to extend from 1 cm below the level of the true vocal cords to the level of the first tracheal ring. At the end of surgery, residual neuromuscular blockade was reversed, and tracheal extubation was performed over a Cook airway exchange catheter (AEC, 11 F, 83 cm, Cook Critical Care, Bloomington, IN, USA). Following extubation, her respiratory rate increased to 29 breaths·min⁻¹ despite adequate motor strength. The patient was placed on oxygen 5 L·min⁻¹ via nasal cannula, resulting in an arterial oxygen saturation of 95%. On arrival in the postanesthesia care unit, the patient complained of shortness of breath, and inspiratory stridor was noted. Racemic epinephrine aerosol was initiated, as well as the inhalation of a mixture of helium 70% / oxygen 30% (Heliox). The tachypnea did not improve following the treatment, and her heart rate and blood pressure increased progressively. Her oxygen saturation decreased to 87%, and a decision was made to reintubate the trachea. A size 5 MLT® tube was railroaded over the AEC without difficulty and its position was confirmed clinically and by capnography. However, attempts to remove the AEC through the MLT® tube were met with resistance, despite prior lubrication of the MLT® tube. Since the AEC was

A Baumler W, Vasold R, Lundsgaard J, Talberg HJ. Chemicals used in tattooing and permanent make-up products. In: Papameletiou D, Schwela D, Zenie A (Eds). Workshop on Technical/Scientific and Regulatory Issues on the Safety of Tattoos, Body Piercing and of Related Practices. Ispra, VA, Italy: European Commission 2003: 21–36.



FIGURE A kink in the airway exchange catheter discovered after removal from the airway.

of little use at this point, it was removed along with the MLT® tube, in the presence of the anesthesia team prepared with both a GlideScope® (Saturn Biomedical Systems, Burnaby, BC, Canada) and a fiberoptic bronchoscope and with the surgeon at the bedside. Immediately following removal of the AEC and MLT® from the patient's trachea, her stridor and oxygen saturation rapidly improved and her respiratory effort, blood pressure, and heart rate returned to baseline values. Inspection of the AEC revealed a kink close to the distal end of the catheter (Figure).

Airway exchange catheters are important adjuncts in management of the difficult airway.¹ However, as with most airway devices, they have limitations.² In our case, an 11 F AEC was used to minimize obstruction to her already compromised subglottic region. Airway exchange catheters are used to facilitate the reintubation, and to allow for temporary ventilation should reintubation attempts fail.³ In this patient, however, the AEC reduced the effective subglottic cross-sectional area, increasing the patient's work of breathing and exacerbating her inspiratory stridor. Taping the AEC to the patient's shoulder, in an effort to improve the mask seal while delivering the Heliox mixture, may have resulted in its kinking by creating torsion and changing the natural curvature of this device.

One advantage of the AEC is that this device provides a conduit to allow temporary ventilation in case of an airway emergency.³ However, in patients with a compromised airway, the use of jet ventilation through this device may be contraindicated since

the egress of air may be impaired, increasing the risk of barotraumas.^{4,5} Finally, use of a bag-valve device connected to the 11 F AEC may have provided inadequate ventilation in this patient in view of her obesity. Clearly, this approach would only be considered appropriate as a last resort, while a definitive airway was being established.

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Hemoglobin M variant and congenital methemoglobinemia: methylene blue will not be effective in the presence of hemoglobin M

To the Editor:

Hemoglobin M (HbM) Saskatoon is inherited in an autosomal dominant pattern and is associated with congenital methemoglobinemia.¹ In HbM Saskatoon, histidine is replaced by tyrosine at the 63rd amino acid sequence in the β chain of the hemoglobin molecule. Pulse oximeters generate erroneous values in the presence of methemoglobin (MetHb)^{2,3} and co-oximeters can be misleading due to HbM.¹ We wish to highlight potential new problems involved in anesthetizing a patient with HbM.