patient’s medications and additional history did not reveal other sources of fluorine exposure. Epicutaneous tests made 6 months after the episode were negative. Because colchicine is thought to be antineutrophilic, treatment with colchicine was started. The half-life of excretion of inorganic fluoride from sevoflurane biodegradation is ~2–4 days.\(^5\) Treatment with colchicine and topical corticosteroids was followed by resolution of the skin lesions within 7 days during hospitalization. There was no recurrence after discontinuation of treatment with colchicines during the following year.

A plasma inorganic fluoride concentration of 50 \(\mu\)mol litre\(^{-1}\) was previously associated with nephrotoxicity with methoxyflurane and was defined as the upper normal range.\(^6\) Fluoride is excreted primarily via the urine. Accumulation of fluoride is rare, but the cytochrome P450 system could not be explored in this patient. No specific source of fluoride was found, but other sources including natural fluoride in foodstuffs and water (fluoridated water, fluoride supplements, fluoride dentifrices, and professionally applied fluoride gel) could not be easily detected.\(^5\) \(^7\) The main source of fluoride for humans is the intake of groundwater contaminated by geological sources.\(^7\)

Fluoroderma (a halogenoderma) is a rare cutaneous hypersensitivity reaction to fluorine exposure. Patients typically present with exudative plaques, fungating nodules, necrotic ulcers, and acneiform eruptions. Histological analysis reveals papillomatosis and accumulation of neutrophils in the dermis (without vasculitis). Treatment includes avoidance of the source of fluorine, wound care, and the administration of topical or systemic corticosteroids. To increase renal excretion of fluoride, diuretics and sodium chloride can be used. Although our patient appeared to have a good response to colchicine treatment, we are unable to rule out spontaneous resolution due to the excretion of inorganic fluoride. Fluorine intoxication from ingestion or dental care has been described,\(^8\) but we are unaware of other reports of fluoroderma caused by sevoflurane. Most reported cases of halogenoderma have occurred after exposure to bromide and iodide.\(^9\) \(^10\) In some studies, lymphocyte transformation tests were positive to iodinated proteins, suggesting a mechanism of hypersensitivity. The main hypothesis was that biotransformation of sevoflurane has exacerbated a chronic exposure to fluoride.

Emergency airway management in a patient with a Montgomery T-tube in situ

Editor —We report a case of successful airway management during cardiorespiratory arrest in a patient with a Montgomery T-tube in situ and make suggestions for the management of similar cases. The patient was a 38-yr-old male with background medical history of quadriparesis after a cervical spinal cord injury who had multiple intensive care admissions for pneumonia. At the age of 35, he developed subglottic tracheal stenosis and had a long-term Montgomery T-tube inserted.

On this admission, the patient was treated for bronchopneumonia on a medical ward. He subsequently developed type 2 respiratory failure and rapidly progressed to respiratory arrest. The extratracheal lumen of the Montgomery T-tube was occluded with the stopper attached, and ventilation with a bag-valve face mask was attempted but proved difficult. The patient developed pulseless electrical activity and standard advanced life support management...
was initiated. Attempted ventilation via the extratracheal lumen with the aid of a standard tracheal tube connector resulted in a large air leak from the proximal airway with insufficient ventilation. The Montgomery T-tube was removed via the stoma by grasping it with haemostatic forceps and applying firm steady withdrawal. The patient’s trachea was intubated via the oral route and the lungs were ventilated with high oxygen concentration. Return of spontaneous circulation occurred shortly afterward. The patient was transferred to the intensive care unit where he required ventilatory support for 10 days. He was then discharged to the respiratory ward with tracheostomy tube in situ having made full neurological recovery.

The Montgomery T-tube is an uncuffed silicone tube that serves as both tracheal stent and tracheostomy. It consists of a long (intratracheal) limb and a short (extratracheal) limb projecting through the tracheostomy stoma (Fig. 1). The extratracheal lumen can be occluded with an attached stopper plug to allow phonation.1–3

Emergency airway management of a patient with a Montgomery T-tube has not been reported before. There are various case reports of airway and anaesthetic management for patients undergoing insertion of the Montgomery T-tube or for patients with Montgomery T-tube in situ undergoing anaesthesia for various procedures.2–4

Our case illustrates the difficulties posed by the Montgomery T-tube in an emergency setting. Unlike standard tracheostomy tubes, the majority of Montgomery T-tubes do not take standard catheter mount connectors due to the variable internal diameter and thickness of the tube. Attempted ventilation via the extratracheal limb is likely to be ineffective due to the air leak via the open upper end of the intratracheal limb. When bag-valve face mask ventilation is attempted, the extratracheal lumen should be occluded to prevent air leak.5

The relative rarity of the Montgomery T-tube and the associated unfamiliarity of the device present challenges during emergency airway management. We present a guide for emergency airway care in such situations. We suggest occluding the extratracheal limb and attempting ventilation via a bag-valve face mask or a laryngeal mask airway. If no adequate ventilation is achieved, the Montgomery T-tube should be removed via the stoma. A definitive airway may be established by inserting an appropriately sized cuffed tracheostomy or tracheal tube into the trachea via the stoma or alternatively the patient trachea could be intubated via standard laryngoscopy. The advice of an anaesthetist and otolaryngology surgeon should be sought whenever an acute admission of a patient with a Montgomery T-tube occurs in order to formulate an airway management plan in the case of an emergency. We also recommend that such patients carry a tube identical to the one they have in situ, compatible airway equipment such as appropriately sized tracheal tube connector could be tested and identified in advance.

**Conflict of interest**

None declared.

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**Perioperative cardiac arrest after thoracic epidural analgesia in a patient with increased pulmonary artery pressure**

Editor—Patients with pulmonary artery hypertension pose a great challenge for the anaesthetist.1–2 There are limited data to support an ideal anaesthetic technique and the use...