Gary, IN, USA), which was advanced distal to the operative site. Ventilation improved dramatically with a $P_{O_2}$ 42.2 kPa, $P_{CO_2}$ 6.1 kPa, $HCO_3^-$ 25.7 mmol litre$^{-1}$, and pH 7.36, with an $F_{O_2}$ of 1.0 and similar minute ventilation (respiratory rate 34, peak pressure 24 cm H$_2$O, PEEP 1 cm). The operation proceeded uneventfully, with stable haemodynamics throughout. At the completion of the case, the muscle relaxant was reversed, the patient awakened and extubated. The patient was observed in the operating room for 20 min, with no signs of respiratory distress or stridor present. The patient was then transferred to the intensive care unit (ICU) in stable condition. Approximately 30 min after arrival in ICU, the patient had a respiratory arrest, characterized by sudden apnea with subsequent desaturation and bradycardia. This apneic event was not preceded by any signs of airway obstruction or respiratory distress such as tachypnea or increased work of breathing. The patient responded quickly to resuscitation, but respiratory effort remained poor, therefore she was reintubated.

After operation, there were several failed attempts at extubation. On each occasion, the patient became apneic with subsequent desaturation and bradycardia. This apneic event was not preceded by any signs of airway obstruction or respiratory distress such as tachypnea or increased work of breathing. The patient responded quickly to resuscitation, but respiratory effort remained poor, therefore she was reintubated.

Although a 2.0 mm internal diameter tracheal tube is available, it is easily kinked or obstructed with secretions, and is not an ideal means of securing an airway. Instead, a one piece paediatric arterial cannula (Medtronic Inc., Minneapolis, MN, USA) of similar outer diameter was chosen. This device is less likely to kink because the distal end is flexible and reinforced with wire, similar to an armoured tracheal tube. More proximally, the cannula expands to a larger calibre, rigid plastic barrel which does not kink or obstruct, and can be attached to an anaesthesia circuit via a standard 15 mm connector. For the 6 Fr cannula used, the 15 mm connector from a 5.0 mm ID tracheal tube fit well, and allowed positive pressure ventilation via this unconventional airway device.

Although not designed to be an airway device, the arterial cannula worked well in this patient. We were unable to find any previous report of using an arterial cannula as a tracheal tube. Tracheal stenosis in small children is recognized to be particularly challenging, and when presented with difficult problems, we may need to be innovative in order to provide the best care for our patients.

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Laryngeal web as a result of Reinke’s oedema: a cause of difficult endotracheal intubation

Editor—Unsuspected laryngeal web may be a problem during endotracheal intubation. We report a difficult tracheal intubation caused by a laryngeal web in an adult patient. A 25-yr-old woman was admitted to our hospital for urgent Caesarean delivery. She had been diagnosed with Reinke’s oedema 4 yr before this but had been refused surgical treatment because her sister had died during surgical repair of Reinke’s oedema. She had a nose operation under local anaesthesia 2 yr previously. Except for hoarseness, her physical examination and laboratory evaluations were normal. The patient refused regional anaesthesia. Anaesthesia was induced with thiopental 5.0 mg kg$^{-1}$ and succinylcholine 1.0 mg kg$^{-1}$ to produce neuromuscular block. Her ECG and noninvasive arterial blood pressure were monitored throughout the anaesthetic with no abnormalities. Laryngoscopy was done with some difficulty and the view was Cormack and Lahane grade II. Tracheal intubation with a size 6.0 cuffed tube was performed with cricoid pressure. At the end of the operation, the patient was extubated fully awake. On the second postoperative day, an laryngeal...
examination by an ENT specialist revealed a laryngeal web located posteriorly, at the level of the vocal cords.

The aetiology of Reinke’s oedema is not completely understood, but it is strongly associated with smoking, vocal abuse and laryngopharyngeal reflux. Laryngeal webs constitute about 3% of all congenital anomalies of the larynx. Congenital webs are usually symptomatic in infancy or early childhood. Acquired webs or scars may develop as a result of neck trauma and/or injury or inflammation of the mucous membrane and submucosal tissues. This patient had no history of trauma to the larynx. The otolaryngologist recommended surgical treatment to the patient. In this case, this sequel of Reinke’s oedema was a coincidental finding but any patient with Reinke’s oedema should be assumed to be difficult to intubate because of the possibility of laryngeal web.

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