Airway management for tracheal tear

Sir,—I read with interest the article entitled “Tracheal rupture after tracheal intubation” by Regragui, Fagan and Natrajian [1]. The authors described the anaesthetic management of a patient with a distal tracheal tear. The trachea was intubated initially with an 8-mm tracheal tube under bronchoscopic guidance with the distal end of the tube above the tracheal tear. After right thoracotomy was performed, a massive air leak resulted and the tracheal tear was repaired using a left Robertshaw double-lumen tube, isolating the right lung.

Endobronchial intubation with a Robertshaw tube with the patient lying laterally was found to present some difficulties and it is not clear if suxamethonium was used on this occasion. If a neuromuscular blocker was used, positive pressure ventilation before isolation of the tracheal disruption might further aggravate the mediastinal emphysema and air leak. If neuromuscular block was not used, endobronchial intubation would be even more difficult. Moreover, intubation using a Robertshaw tube, intended under fibreoptic guidance, carried the risk of extending the tracheal tear [2] because the Robertshaw tube is made of stiff red rubber and has a relatively large external diameter and curves in two planes. After placement of the endobronchial tube, the tracheal cuff would lie at the site of the tracheal injury and positive pressure ventilation through the tracheal lumen could expose the defect to further damage. Therefore, the tracheal lumen of the Robertshaw tube served minimal function in this case.

This patient’s airway could have been secured on anaesthetic induction using a left endobronchial tube inserted under fibreoptic guidance, using a small uncut tracheal tube to bypass the disruption and allow ventilation of one lung until the tear was repaired [3]. After tracheal repair, the tracheal tube can then be re-located by bronchoscopy to lie above tracheal structures and general anaesthesia can be maintained with the patient breathing spontaneously. Ventilation of both lungs in patients with tracheal disruption has also been reported with two small tracheal tubes passed into each main bronchus using fibreoptic control [4, 5] or by use of a modified Foley catheter [6].

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Rocuronium for Caesarean section

Sir,—We read with interest the study by Abouleish and colleagues on the use of rocuronium (Org 9426) for Caesarean section [1]. The authors concluded that rocuronium 0.6 mg kg\(^{-1}\) provided excellent to good intubating conditions in 90% of Caesarean section patients when combined with thiopentone 6 mg kg\(^{-1}\) and a waiting period of 80 s after injection. Also, its use was found to be safe for mother and fetus.

We believe that increasing the dose of thiopentone played a significant role in providing the excellent to good intubating conditions in their study, because thiopentone can produce dose-related depression of the pharyngeal and laryngeal reflex [2]; large doses of thiopentone alone can provide adequate conditions for intubation [3], and increasing the dose of thiopentone can deepen the level of anaesthesia, contributing to the adequacy for intubation [4].

Although the authors reported that increasing the dose of thiopentone from 4 to 6 mg kg\(^{-1}\) did not adversely affect neonatal outcome, thiopentone 3–4 mg kg\(^{-1}\) is recommended for induction of anaesthesia at Caesarean section to avoid neonatal depression [5, 6]. There is evidence that thiopentone readily crosses the placenta and increasing the dose of thiopentone increases the incidence of neonatal depression [7, 8]. Finster and colleagues observed that after administration of thiopentone 400 mg to six mothers, five of six infants were depressed at birth, without evidence of undue intrauterine asphyxia [7]. Subsequently, Finster and Poppers obtained superior results using a lower dose of thiopentone (250 mg) in mothers undergoing Caesarean section; only 24.7% of infants showed neonatal depression (Apgar score 6 or less) [9]. Kosaka, Takahashi and Mark also reported that increasing the dose of thiopentone from 4 to 6 mg kg\(^{-1}\) increased the incidence of neonatal depression (Apgar score 6 or less) from 6.35 to 20% [8]. Thus increasing the dose of thiopentone to more than the most frequently used dose (3–4 mg kg\(^{-1}\)) in order to improve intubating condition in parturients for Caesarean section may not be a good solution because it may increase the incidence of neonatal depression.

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