

## Correspondence

### *Don't let the Bain take the blame*

To the Editor:

We were interested to read the report of an occluded breathing system resulting in failure of inhalational induction of anaesthesia.<sup>1</sup> The accompanying photograph clearly illustrated the cause of obstruction, a cylindrical metal object, located in the angle-piece connecting the face mask to a breathing system which in this case happened to be a Bain circuit. As the authors correctly point out, the same clinical situation could have occurred with any breathing system. Perhaps it would have been more appropriate to title this case report "Angle-piece occluded by a foreign body"?

The authors qualified the sole use of pulse oximetry during induction of anaesthesia with the intention of establishing ECG, temperature, non-invasive blood pressure monitoring and vascular access immediately after induction was achieved, but, curiously, did not state if or when capnography was to be used. Prior incorporation of a capnograph sampling tube between the Bain circuit and the angle-piece may have afforded closer scrutiny of the angle-piece during the disconnection and reconnection procedure. Also, assuming an adequate face-mask seal, the absence of a typical capnograph trace is a useful indicator of lack of airway continuity or patency<sup>2</sup> and may have been of particular benefit in this case. Nevertheless, we believe that such an error should be identified before use of the breathing system on a patient.

We disagree with the authors' conclusions. In attempting to define a method that includes the Bain circuit and the angle-piece they advocate adaptation of anecdotal tests which are insensitive and unreliable indicators of integrity of the inner tubing of the Bain circuit. Rather than perform such tests with the angle-piece present, it would be preferable to perform a more sensitive and reliable check which requires removing the angle-piece.<sup>3</sup> Thorough inspection of the remaining components, as the authors comment, would then have detected the foreign body. We consider this to be the essential message of the case report.

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### *Tracheal obstruction*

To the Editor:

We read the article "Jet ventilation in a case of tracheal obstruction secondary to retrosternal goitre" by Baraka *et al.*<sup>1</sup> and would like to congratulate the authors on their management. However, we question inhalational induction (following awake tracheal intubation) in this patient with severe airway obstruction as inhalational induction may be delayed in these cases. Also, as the patient was already hypercapnic halothane may induce dysarrhythmias.<sup>2</sup> Isoflurane might have been a better choice. We feel *iv* induction with thiopentone would have been preferable.

The authors suggested that spontaneous ventilation is safer than controlled ventilation even after successful awake tracheal intubation. We disagree because after ensuring adequate ventilation, it is advisable to switch to controlled ventilation. Spontaneous respiration, if continued in a patient with obstructed airway, might lead to pulmonary oedema.<sup>3</sup>

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#### REPLY

*Ventilation in patients with tracheal obstruction can create serious problems, particularly when the cross-sectional diameter of the trachea is narrowed to 5-6 mmHg. That is why the anaesthetic management and method of ventilation in our patient followed a step-by-step algorithm to ensure safety. The anaesthetic plan started by awake tracheal intubation, to be followed by spontaneous inhalation anaesthesia in 100% oxygen. Neuromuscular blockade and controlled ventilation were initiated after ensuring adequate jet ventilation.*

*In his letter, Dr. Agarwal should have agreed with us, rather than disagreed, since we shifted to controlled ventilation as soon as we ensured its safety.*

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## Tracheo-bronchial angles in infants and children

To the Editor:

We read with interest the correspondence on unintentional left main bronchus intubation by Ezri *et al.*<sup>1</sup> They described that the two main bronchi take off at the same angle from the trachea in children younger than three years quoting the 10th edition of *A Synopsis of Anaesthesia*.<sup>2</sup>

We demonstrated that tracheo-bronchial angles in infants and children are not the same, namely the angle of the right is smaller than that of the left as in the adult.<sup>3</sup> The 11th edition of *Lee's Synopsis of Anaesthesia*<sup>4</sup> revised the above description citing our paper.

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- 3 Kubota Y, Toyoda Y, Nagata N, *et al.* Tracheo-bronchial angles in infants and children. *Anesthesiology* 1986; 64: 374-6.
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## Laryngeal mask airway in cardiac surgery

To the Editor:

Anaesthesia induction before cardiac surgery must be slow and deep to preserve haemodynamic stability and to avoid cardiac arrhythmias. During this time we must ensure patient oxygenation and ventilation and prevent gastric inflation. We use the laryngeal mask airway (LMA) after preoxygenation of the awake patient using a standard face mask as a step towards tracheal intubation. The LMA frees our hands for other tasks such as drug administration, record-keeping, haemodynamic monitoring or to ensure ventilation.<sup>1</sup> It is a good method to ensure the airway for deep anaesthesia with a minor haemodynamic and endocrinometabolic repercussion<sup>2</sup> and a gradual and safe anaesthetic level. Moreover, ventilation and its monitoring by the capnography are easier using LMA, and this is important in patients with lungs which are difficult to ventilate,<sup>3,4</sup> or with haemodynamic instability. We believe that these are advantages compared with ventilation using the standard face mask.

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