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Percutaneous transtracheal ventilation for laser endoscopic procedures in infants and small children

To the Editor:

I believe that the method suggested by Ravussin and his colleagues in their recent article¹ may be extremely hazardous.

I cannot accept that on the basis of a report of only two cases a technique can be labelled as "... safe and useful ...". Some years ago Dr Fearon and I drew attention to the dangers of intratracheal catheter jet ventilation in children with obstructive airway lesions.² Since that time I have been made aware of further deaths resulting from the use of this method. To these dangers the present authors have

added those of percutaneous tracheal puncture. They are also advocating the use of a jet distal to a major obstruction lesion, a practice which is generally thought to be contraindicated.³ True they have added the use of an "exit route" for insufflated gases, and they stress vigilance and "fail safe" systems to minimise the risk of barotrauma. I am concerned, however, that such precautions are not infallible and that their method introduces some unnecessary potential dangers when much safer and simpler alternative methods and anaesthesia are available.

David J. Steward, MB FRCP
Department of Anaesthesia
British Columbia's Children's Hospital
Vancouver, British Columbia
V6H 3V4

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REPLY

We appreciate Dr Steward's comments on our recent article, and agree with his concern about the possible complications using percutaneous transtracheal jet ventilation. However, we believe that adequate precautions were undertaken to minimise these risks, and that there is a significant added advantage in avoiding tracheostomy in small children. Furthermore, a catheter introduced into the trachea under endoscopic control allows at any time simple insufflation of oxygen ($1-3 \text{ L} \cdot \text{min}^{-1}$) should complete obstruction occur. We wish to emphasise that we do not suggest this technique for routine cases where the use of a more conventional anaesthetic technique is possible, but that it should be reserved for use in specific cases such as described. Laser surgery, unlike endoscopy, requires good surgical access to an immobile operative site, usually achieved with the aid of muscle relaxation. However, the importance of an "exit route" for the insufflated gases can not be over-emphasised,¹⁻³ and a bronchoscope in place is a perfect guarantee. Thus in certain rare cases we have found the technique we described to be a valid alternative in experienced hands. We would be interested to know the "safer and simpler alternative methods of anaesthesia" that Dr Steward would have used in the cases reported, in particular case I, the 4-month-old infant with a 25 mm long subglottic haemangioma obstructing the tracheal lumen by approximately 80 per cent while at the same ensuring surgical access to an immobile operating field.

P. Ravussin MD FMH
Agrégé
CHUV, 1011 Lausanne, Switzerland