A modified latex armoured endotracheal tube for distal tracheal resection

To the Editor: Resection of distal tracheal lesions presents unique anaesthetic problems. Of these, the most important are maintenance of adequate two-lung ventilation and protection of the airway against anaesthetic problems. Of these, the most important are maintenance of ingress of blood and foreign matter during the period of resection and anaesthesia.

The anaesthetic technique for tracheal surgery as described by Geffin et al.1 may be divided into three steps:

1. Induction and dissection of trachea. Endotracheal anaesthesia is maintained with an endotracheal (ET) tube placed orally either below, or preferably above, the level of the lesion.

2. Transection of trachea, resection of lesion and posterior anastomosis. Ventilation is temporarily maintained by means of a separate sterile ET tube placed into the distal stump of the trachea by the surgeon, and connected to a separate sterile anaesthetic circuit. The oral tube is withdrawn to a level proximal to the resected area.

3. Anterior anastomosis. The oral tube is advanced beyond the anastomosis, and the operation completed with the head flexed. With distal lesions the residual tracheal stump length may be inadequate for standard ET tubes. Maintenance of two-lung anaesthesia during stages 2 and 3 may therefore become impossible.

Three alternatives have been described specifically to overcome this problem:

1. Geffin et al.1 suggested intubation of the left main bronchus through the stump, and clamping of the right pulmonary artery to minimize shunt. The obvious disadvantage is that two-lung ventilation is impossible, and to gain access to the right pulmonary artery a more extensive dissection may be necessary.

2. Cloete2 described a double, simultaneously triggered endobronchial jet inflator (modified from Sanders' original design3). Adequate oxygenation and ventilation is possible, but the airway is unprotected and, owing to the functional principle of the inflator (i.e. air entrainment), blood and other matter may easily be blown into the airway. The use of inhalational anaesthetic agents is also precluded and humidification is impossible.

3. Abou-Madi et al.4 modified a large Foley catheter by shortening it to 25 cm, cutting off the tip protruding beyond the balloon, and used this successfully. They reported that this technique had several advantages: (a) length — this kept the anaesthetic circuitry away from the surgical area; (b) resistance to kinking; and (c) the short balloon makes distal resection with two-lung ventilation possible.

We used a similar technique with less success and found that the inflated balloon encroached upon the catheter lumen, making passage of the suction catheter impossible, and surgery frequently had to be interrupted for suctioning. For the same reason, airway obstruction readily developed at the balloon site.

It was therefore decided to design a latex armoured tube for use in this special situation. The characteristics of this tube and those of a standard latex armoured tube and a modified Foley catheter are presented in Table I. This tube will allow maintenance of two-lung ventilation throughout resection of tracheal lesions as close as 25 mm to the carina, compared with 55 mm for a standard latex armoured tube.

J. A. M. de Roubaix
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Crime and premenstrual tension

To the Editor: The editorial in the SAmFj of 5 December 1981 could lead some readers to suggest that such sufferers wear a notice reading 'Beware of the bull', like putting a notice on a gate reading 'Beware of the bull'!

On further thought, however, one realizes there is more to this than meets the eye. The clue is given in the statement that in the barrister's case such tension had a 'Jekyll and Hyde' effect. The chemical trigger was progesterone insufficiency. Now in 1950 I wrote: 'It is worth noting that where "psychic trauma" is already accentuated fixed neurosis — and sent her to a state institution for treatment of her organic insufficiency with simultaneous pertinent psychotherapy for her underlying neurosis.'

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Errata

It has been pointed out that in the article on the effect of Gastro-Conray on resting lower oesophageal sphincter pressure by Brock-Utne et al., which appeared on p. 22 of the SamFj of 2 January 1982, the name D. O. Castell in references 6, 7, and 9 and also in the discussion should have read D. O. Castell.

We regret to report that in the account of the Sims Commonwealth Travelling Professor's itinerary which appeared under 'People and Events' in the SamFj of 9 January 1982 Auckland was credited to Australia rather than New Zealand. We do know better!

<table>
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<tr>
<th>TABLE I. CHARACTERISTICS OF THE MODIFIED LATEX ET TUBE COMPARED WITH A STANDARD LATEX ARMOURLED TUBE AND A MODIFIED FOLEY CATHETER</th>
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<td>Protruding tip (beyond cuff) (mm)</td>
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<td>Cuff length (mm)</td>
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