


Sir,—The main purpose of our paper was to test further the hypothesis that nitrous oxide combines with the vitamin B₁₂ molecule of methionine synthase to form a hydroxyl radical that reacts with and inactivates the enzyme. Our results were consistent with this hypothesis [1]. I agree with Dr Gillman that harmful sequelae rarely occur in healthy individuals after clinical administration of nitrous oxide, even though more than 50% of hepatic methionine synthase is inactivated after a 2-h exposure to 50-70% nitrous oxide [2, 3]. In those patients known to have severe deficiencies in vitamin B₁₂, folate, or both, it is advisable to correct these vitamin deficiencies and to avoid administration of nitrous oxide.

D. D. KOBLIN
San Francisco

REFERENCES


MINITRACHEOTOMY—IMPOSSIBLE CANNULATION

Sir,—Minitracheotomy (MT), described initially by Matthews and Hopkinson [1], is a method for treating bronchial congestion. Until now, few complications have been reported [2, 3]. The following is a description of two patients in whom catheter insertion was impossible because the cricothyroid space was too small.

**Patient 1.** A few days after insertion of a ventricular-peritoneal shunt for hydrocephalus, a 60-yr-old female presented severe bronchial congestion. Because of the patient's poor neurological status it was decided to perform MT under local anaesthesia using the percutaneous technique. Although insertion of the leader was easy, cannulation was impossible. In order to assess the cause of this difficulty, it was decided to expose the cricothyroid space surgically. The height of the space was 4.8 mm—smaller than the external diameter of a standard cannula. MT was therefore not performed.

**Patient 2.** After undergoing 28 days of mechanical ventilation for bacterial pneumonia, a 62-yr-old male presented with severe bronchial congestion and MT was attempted in order to permit tracheal extubation. The technique used was similar to that in patient 1. Insertion of the leader was easy, but cannulation was impossible. Because surgical exploration revealed a cricothyroid space of 5 mm in height, MT was not performed.

MT by the standard percutaneous method is usually easy. However, difficulties can be encountered because of the anatomy of some patients (short, fat neck), especially females [4], or because of calcification of the cricothyroid membrane which may follow previous MT. Failure of cannulation because of a small sized cricothyroid space has not been reported previously.

Forced insertion of the cannula may cause cricoid cartilage lesions leading ultimately to severe subglottic stenosis [4]. Caparosa and Zavatsky [5], studying 51 adult larynxes, found a mean sagittal height of the cricothyroid space (between the anteroinferior edge of the thyroid cartilage and the anteroinferior edge of the cricoid cartilage) of 9 mm (range 5-12 mm). Carter and Meyers [6] found slightly smaller dimensions in the female. Thus in most patients the cricothyroid space is larger than the MT cannula, which has an external diameter of 5.4 mm. In some subjects, especially in females, this space may be smaller than the cannula, but in the two patients reported, clinical examination did not permit anticipation of this difficulty.

We suggest that, when cannulation is difficult by the standard method, surgical exploration should be attempted in order to verify the size of the cricothyroid space.

P. COMBES
J. P. GAYARD
B. FAUVAGE
Grenoble

REFERENCES


