CORRESPONDENCE

A DEVICE FOR MECHANICAL VENTILATION SUITABLE FOR NEWBORN AND INFANTS DURING ANAESTHESIA

Sir,—There is a much simpler approach to the problem of mechanical ventilation of the newborn than the one Dr. Doctor describes in his article (Brit. J. Anaesth., 36, 259). Although superficially similar, its mode of operation is clear and straightforward, and we feel your readers might be interested in a brief preliminary description.

The addition of a small open-ended bag to a standard Ayre’s T-piece (1) is a well-established modification. This bag (2) is placed in a jar (3) of about 1 litre volume. The adult ventilator is connected to a small bag (4) of variable capacity in parallel with the jar. Expiration reaches the atmosphere through an automatic inflating valve (5), such as the Fink or Beaver, with the compression gas from the jar. (The Newcastle ventilator is pressure cycled and the pressure tapping is shown (6) for completeness.) Ventilation of the smallest patient, from 3 lb. upwards, can be achieved in this manner.

Although this arrangement has been used for more than 1,200 cases over a period of three and a half years, we have not yet completed full investigations on its exact performance. We agree with Dr. Doctor about the complete inadequacy of the Wright meter in those patients about whom information is most required.

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TRANQUILLIZERS AND HALOTHANE

Sir,—During the past few months there has been much correspondence on the subject of the risks of combining halothane and adrenaline. Again, the hazards to the patient of treatment with the amine oxidase inhibitor group of tranquillizers have become increasingly evident. The responses to pethidine and the amphetamines, and some unidentified factor in cheese, of patients under such treatment are now well documented. It has been suggested that hypertensive crises and possibly cardiac arrhythmias may occur spontaneously and perhaps with fatal result.

These effects resemble those to be expected from a sudden increase in circulating adrenaline. If this be true it would be reasonable to expect an adverse response if halothane were employed to anaesthetize a patient under treatment with one of this group of tranquillizers.

The following experience appears to support this argument.

Case report.

A physically healthy male fitter, 36 years old, presented with a history of six weeks’ dental pain and one day’s increased pain and facial swelling associated with carious and abscessed maxillary first and second molars.

For the past two years he had been under psychiatric treatment with tranylcypromine (Parnate) 10 mg t.d.s., and trifluoperazine (Stelazine) 5 mg t.d.s. until six weeks previously when he had started to take Spenules of Stelazine 15 mg (instead of tablets of trifluoperazine) and tranylcypromine 10 mg bd.

On examination prior to anaesthesia his temperature was 99°F, resting pulse 76 beats/min, and blood pressure 130/80 mm Hg.

Suppuration precluded local analgesia and the patient’s pathological fear of injections made him object to intravenous induction, so inhalation anaesthesia was employed. Induction was with nitrous oxide, oxygen and halothane, using 15–20 per cent oxygen from a Walton Mk. 5 and a Goldman Mk. 2 halothane vaporizer. This was smooth and uneventful and the halothane was cautiously advanced to the full “on” position. After six or seven breaths of this concentration and just as surgery was about to begin, the pulse rate suddenly rose to 110–120 beats/min and the pulse became grossly irregular in a manner indicative of extrasystoles. The halothane was at once withdrawn and surgery was cautiously started under nitrous oxide and oxygen alone, the offending tooth being extracted. During the subsequent 5–7 minutes the patient recovered consciousness and the pulse became regular again and the rate settled down to 90 beats/min. Recovery was normal and when he was discharged 1 hour later his pulse rate was 90 beats/min and his blood pressure 130/95 mm Hg. Monitoring with a blood-pressure follower before beginning anaesthesia was contemplated, but to avoid further excitement in an already nervous patient this was not done.

Commenting upon the sudden death of a boy of 16 under treatment with an amine oxidase inhibitor drug, Womack (1963) suggests that the drug provokes hypertensive crisis and possibly cardiac arrhythmia. Such a crisis may be precipitated by emotional reactions and is presumably mediated by release of catecholamines. The unpremedicated patient in this report may well have responded to the emotional stress of his impending operation in this manner and may, in fact, have been on the verge of a hypertensive...