

We routinely use a FOB for introduction of the small tube into the right or left main bronchus, although the blind insertion of the small tube into either bronchus is reported to be possible.¹ In this case, without the use of an FOB, the foreign body might have produced postoperative pulmonary disease of unknown origin, because the cap is very small and may not be detected in a roentgenogram.

The present case emphasized that a FOB is an important adjunct for detecting trouble associated with one lung ventilation.

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Diazepam and the Hypercarbic Response to Carbon Dioxide

To the Editor:—A recent paper¹ and subsequent correspondence^{2,3} has considered the extent to which diazepam may depress the ventilatory response to carbon dioxide.

The negative findings of Bailey *et al.*¹ have been criticized on the grounds that the dose of diazepam (0.1 mg/kg) was insufficient to demonstrate respiratory depression in fit, young volunteers.² In attempting to defend this, Bailey *et al.*³ argue that similar negative effects also occur at higher doses,⁴ but they ignored the unequal bioavailability of different injectable preparations of the drug. Power *et al.*⁴ used an emulsion of diazepam in soya-bean oil (Diazemuls) in a dose of 0.15 mg/kg, but there is no information on the nature of the preparations used in other studies.^{1,5}

It is known that, in the emulsion form, the bioavailability of diazepam is reduced by up to 30% compared with the propylene glycol preparation (Valium®),⁶ and it is, therefore, questionable whether the work of Power *et al.*⁴ lends support to the view that higher doses failed to depress the hypercarbic ventilatory response.

There are now four injectable preparations of diazepam available around the world, and it has been shown that they all have different bioavailabilities.^{6,7} Consequently, comparison of the pharmacodynamic effects of intravenous diazepam is meaningless without specific information on the nature of the preparations used.

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In Reply:—We would like to thank Dr. Fee for bringing to our attention that the bioavailability of different preparations of diazepam may vary. Although, to our knowledge, only one injectable form of diazepam (Valium®,

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Hoffman-LaRoche) is available in the United States, several other preparations exist worldwide. If the data from Fee *et al.*¹ are correct, then the dose of 0.15 mg/kg that Power *et al.*² used is equivalent to 0.105 mg/kg of the

diazepam (Valium®, Hoffman-La Roche) used in our study.³ Also, Bourke *et al.*⁴ studied 0.29 mg/kg of diazepam (unknown preparation). Even if the bioavailability of their brand of diazepam was the lowest measured by Fee *et al.*,¹ the dose given was still of greater potency than that used in our study.³ Therefore, we still find support in the literature that doses of diazepam, equal to or greater than 0.10 mg/kg of Valium®, do not consistently depress respiratory drive.

Many factors, including blood flow, plasma protein binding, and liver function, affect bioavailability even after intravenous injection. It has also been noted that even different lots of preparations from a single manufacturer may differ in their bioavailability.⁵ Fee *et al.*¹ examined this issue in their recent report, and found the measured dose to be within 6% of the stated dose of various diazepam preparations. The coefficient of variation of their method of estimation was as high as 11%. Although they found an emulsion preparation of diazepam produced significantly lower plasma levels than Valium®, others have not found these different makes of diazepam to produce statistically different plasma levels.⁶ In addition, bioavailability refers to the extent to which a drug reaches its site of action. Brain benzodiazepine receptors represent this site with regards to diazepam and, therefore, plasma levels do not reflect all factors determining bioavailability (*e.g.*, CNS penetration, solubility) and biologic activity.

Nevertheless, we are grateful for the tedious task performed by Dr. Fee *et al.*,¹ and hope that his report and the information contained in this letter will help clarify the issue he has raised.

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Laryngoscopy Technique in Obese Patients

To the Editor:—In obese or kyphotic patients, King *et al.*¹ wisely suggest “turning and lowering the laryngoscope handle towards the right side of the patient’s neck and inserting the blade laterally into the mouth.”

I can confirm that this works and has been used by experienced anesthesiologists for many years. I described this simple maneuver some time ago² in response to a report of a laryngoscope “adaptor”³ which had been especially designed to solve the problem!

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