rats were judged at 10 min and 20 min, by the absence of eyelash and the presence of the conjunctival reflex, to be at a clinically similar depth of anaesthesia. Furthermore, respiratory rates were checked at intervals throughout the study and these did not fluctuate once stable anaesthesia was established. The use of this clinical approach was further justified by the similar duration of recovery of consciousness and exploratory activity after enflurane and halothane. The similar clinical depth of anaesthesia at apparently disproportionate inspired concentrations did surprise us but the finding was consistent and, initially, might in part be explained by the different blood-gas solubility coefficients of enflurane and halothane.

If one accepted Professor Merin's interpretation, that the difference between the effect of enflurane and halothane was a result of a dose factor, then it would be reasonable to expect that a progressive change in intestinal activity would occur as anaesthesia deepened. However, this was not the case, the evidence we presented confirmed that the motor response of the small intestine in the rat is not the same for different agents. Therefore, even if, during the course of the anaesthetic period, a deeper level of anaesthesia were achieved with halothane, this did not alter the direction of the results obtained and so we conclude that the difference in the effects of enflurane or halothane on intestinal motility was not dose-dependent. Indeed, a careful study of our paper reveals that the changes in the migratory myoelectric complex (MMC) associated with treatment with enflurane and halothane were not part of a trend. The responses to enflurane included a significant reduction in the duration of the MMC with no change in the duration of phase III activity, whereas halothane was associated with a significant increase in the duration of the MMC and phase III activity was either abolished or of a significantly reduced duration. Furthermore, while the changes after the cessation of anaesthesia using either drug were similar for a 30-min period, that is a return to a pattern approximating to that detected in the normal conscious fasting rat, there were marked abnormalities in the subsequent intestinal motor activity in those rats that had received halothane. We did examine the effect of 5% enflurane and 2% halothane on intestinal motility and the changes recorded were similar to those recorded at the concentrations published (Wright et al., 1982) for both drugs, however the general condition of the rats suggested very deep and very light anaesthesia respectively. These results were not included in our paper because, as a result of the very obvious differences in the levels of anaesthesia, they were not comparable.

We conclude therefore that, while the doses of anaesthetic agents administered for the short period (30 min) of the study were different, comparable levels of anaesthesia were achieved as judged by time of onset of anaesthesia, duration of the awakening periods and the constancy of the conjunctival reflex activity. We do not feel that our concluding sentence was other than, as stated, a suggestion, it was not intended to be taken as a definitive conclusion, but we believe that the suggestion based on our findings was none the less valid.

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VECURONIUM AND ATRACURIUM
Sir,—In their recent paper comparing vecuronium and atracurium Robertson and colleagues (1983) raised some interesting points concerning the two drugs.

From their results it can only be claimed that vecuronium has a shorter duration of action than atracurium at the lower dose. At the higher doses (vecuronium 129 μg kg\(^{-1}\) and atracurium 564 μg kg\(^{-1}\)) there was no significant difference in duration between the agents. They also noted that the ED\(_{50}\) and ED\(_{90}\) for atracurium (131.1 μg kg\(^{-1}\) and 188.7 μg kg\(^{-1}\), respectively) were lower than those found by other authors and, thus, the role of anaesthetic agents in affecting the results needs to be considered. Folds and colleagues (1982) found the ED\(_{50}\) and ED\(_{90}\) for vecuronium to be 21.5 and 26.7 μg kg\(^{-1}\), and for atracurium the values were 103.0 and 167.2 μg kg\(^{-1}\), respectively.

It has been shown by Thompson, Merret and Webb (1982) that ester hydrolysis does not play a significant part in the elimination of atracurium. The Hoffman Elimination described in 1851 by A. W. Hoffman involved the decomposition of quaternary ammonium salts when heated with strong alkalis. With atracurium, electron withdrawal because of the positive charges on the nitrogen is thought to weaken the B-C-H bond, thereby assisting proton transfer (Stenlake, 1982). This reaction occurs at physiological temperature and pH and requires no enzymes. Thus, there is no metabolic pathway as such to be overloaded and it is not surprising that the elimination has been observed to be a constant reaction (Hughes and Chapple, 1981; Payne and Hughes, 1981) since biological variables, such as enzyme concentrations and hepato - renal function play no part in the drugs removal (Utting, Hunter and Jones, 1982).

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