
*Correspondence*

Dr Gilston is perfectly right to be sceptical about IMV and to report circumstances where its use did not seem helpful, but it is surely only through widespread use that the true worth of a so-called advance can be assessed.

It was due to dissatisfaction with two particular aspects of IMV systems that the concept of MMV was developed. Firstly, there is a basic lack of safety in a system where the patient's minute ventilation could at any time fall to the 'mandatory' level, which on its own may be too low. Secondly, there was need for simplification of the means whereby a raised airway pressure, for spontaneous and artificial breaths, could be achieved, if this were deemed necessary. We feel that the apparatus as described deals with these problems simply and cheaply.

The overall worth of this system will, as we implied in the paper, only be assessed after extensive use. At the time of writing, for instance, it was already possible to predict one circumstance where MMV would probably not be helpful. This was the situation where there was a gross disparity between the efficiency of the spontaneous, compared with the artificial, breaths. We have in fact observed this in two cases, and ways of overcoming the problem are being looked into. This is to involve not only looking at the mechanical aspects of the machine itself, but also the investigation of the causes and possible modification of the abnormal respiratory drives occurring with lung disease.

There remain a host of other situation where MMV seems potentially useful but in the meantime, we are trying it in as many situations as we can, so that we can form some impression of its breadth of application.

Northwick Park Hospital, A.M. Hewlett
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*Rapid intubation with fazadinium*

In their article 'Rapid Intubation with fazadinium' (*Anaesthesia*, 32, 14, 1977), Dr Hartley and Mr Fidler suggest that fazadinium may be a useful non-depolarising blocking agent in emergency cases where rapid intubation is required and when it is wished to avoid possible or probable adverse effects from the depolarising drug suxamethonium.

In the last two confidential reports on maternal mortality, at least ten patients died as a result of difficulty with intubation. Whatever the degree of relaxation, it is always possible that an anaesthetist may be unable to intubate a patient, and in such circumstances the great virtue of suxamethonium is surely that its duration of action is in the order of five minutes only, whereas that of fazadinium is fifteen to thirty minutes. Using suxamethonium, spontaneous respiration with full reflex protection of the airway can be restored within a relatively short time, and the 'cornerstone' technique of anaesthesia for the full stomach, namely spontaneous respiration with the patient tilted to the side, is then possible.

If anyone says that in his experience it is always possible to intubate any patient, then all he needs is more experience.

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*Suxamethonium versus fazadinium*

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The costs, in this Hospital, of an 'intubating dose' of relaxants are:

- Suxamethonium: 1 x 100 mg ampoule 12p
- Gallamine: 2 x 80 mg ampoule 24p
- Alcuronium: 2 x 10 mg ampoule 44p
- d-Tubocurarine: 2 x 15 mg ampoule 50p
- Pancuronium: 2 x 4 mg ampoule 52p
- Fazadinium: 1 x 75 mg ampoule 74p

Finally, whatever other lunacies are imposed upon clinicians in the name of S.I. units, preserve us from the metric clock. For those of us whose watches (and stop-watches) are calibrated in seconds, would you either prohibit decimal minutes from your journal or provide yet another conversion table.

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Editorial nostalgia for real time

'For Cambridgeshire people rarely smile, Being urban, squat and packed with guile. Stands the Church clock at ten to three? And is there honey yet for tea?'

The Old Vicarage, RUPERT BROOKE
Granchester (1887–1915)

A reply from Dr Hartley

Earlier investigations hoped to show that fazadinium had two advantages, namely speed of onset and secondly a short duration of action. A competitive neuro-muscular blocking drug with both these properties would be ideal. Clinical trials using fazadinium demonstrated rapid onset but a duration of action not far removed from other known drugs.

The question asked was whether or not the rapid speed of onset would have advantages if shown to be similar to suxamethonium and this can only be decided by individual opinion. We therefore attempted to measure the speed of onset on a comparative basis with suxamethonium and alcuronium which, too, has a fairly rapid speed of onset and equally important to assess the comparative conditions for intubation. The implications from our findings must be left to the individual reader.

Dr D.J. Hill rightly points out that the complications of suxamethonium are not in dispute but he answers his own question referring to prior injection of the non-depolarising relaxant, namely the possibility of sudden failure of access of a vein and delay of injection of the induction agent, but he does not mention how he gauges his dose of the induction agent to avoid possible awareness at the time of intubation.

Dr D.M. Jackson is surely reiterating the need for a quick acting non-depolarising relaxant with short duration which at present we do not have. There is no doubt that suxamethonium for the time being provides optimum conditions for intubation and, in that sense, whether a difficult intubation might be foreseen or not, in a known situation where aspiration risk is high, suxamethonium must be the choice of relaxant, and this applies with equal importance to obstetric anaesthesia.

There are situations in anaesthesia where speed of onset and rapidity of intubation are desirable but in which it would be better to avoid suxamethonium and, in many elective cases, many anaesthetists nowadays tend to reject suxamethonium in favour of a rapidly acting non-depolarising relaxant with fewer side effects. Fazadinium appears to have marginal advantages over alcuronium from the results of work so far undertaken. The longer duration of action of fazadinium overrides any significant advantage in cost when comparing this drug with alcuronium although I agree that a drug doing an equal job of work and costing less would be appropriate. May we also point out to Dr Hill that hundredths of a minute may be converted to seconds simply by multiplying by a factor of 60. The Omega stop watch used measured time in hundredths of a minute and certainly made for simpler mathematics.

The Old Vicarage, RUPERT BROOKE
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The dangers of nitrous oxide

In the discussion of a case of air embolism arising during arthrography (Anaesthesia 1976, 31, 1231) Dr A.K. Saha comments that the use of a more soluble gas as a contrast medium would reduce the danger of a gas embolism but fails to point out that the anaesthetic technique he was using increased the dangers resulting from air embolism.

Nitrogen is almost insoluble in blood when compared to nitrous oxide (solubility ratios 1:35). This means that when a bubble of air is injected into the circulation of a patient who is receiving nitrous oxide anaesthetic, nitrous oxide will come out of solution till the gas composition of the bubble is the same as the surrounding blood.

In the case described by Dr Saha receiving a 4:2 mixture of nitrous oxide and oxygen this will result