presumably reflecting the decay of that part of the non-depolarizing effect which is present, but unrecordable. As recovery of the diaphragm from non-depolarizing block is more rapid than that of the hand [3], it is understandable that a small dose of suxamethonium may partially antagonize a degree of non-depolarizing block in the hand, whilst simultaneously producing overt relaxation in the diaphragm, where the recovery from the block is much further advanced.

The use of small doses of suxamethonium affects policy on the use of neostigmine. A maximum of 75 mg of suxamethonium, given in increments of 25 mg, has always provided abdominal relaxation of sufficient duration for my surgeons to complete peritoneal closure. Usually it takes at least a further 10 min before the dressings are applied, by which time, T1 and T4 have always completed their rapid recovery from the depolarizing effect, and have returned to a time-course consistent with continuing recovery from non-depolarizing block. If I give even a small dose of neostigmine at this stage, there is always accelerated recovery, although a further small dose may be required to complete it. There is never accentuation of the depolarizing block, because it is even more transient than in the observations of Dr Scott and Professor Norman for 3 mg kg\(^{-1}\) of suxamethonium.

I am prepared to avoid the use of neostigmine (e.g. after a colonic anastomosis and conservative dosing with atracurium), as the abdominal tightness probably implies that adequate ventilatory power will soon return, but I would be less optimistic regarding spontaneous recovery from non-depolarizing block with the use of longer-acting agents. Having used the Datex Relaxograph innumerable times to convince myself of the safety of this approach within these constraints, I am now prepared to use this approach without neuromuscular monitoring.

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REFERENCES

Sir, — We agree entirely with Dr Black’s claim that small doses of suxamethonium may produce diaphragmatic relaxation during recovery from a non-depolarizing drug but antagonize the more slowly recovering block in the hand. It is well known that the margin of safety for neuromuscular transmission differs between the diaphragm and the adductor pollicis muscle [1]. However, the intercostal and upper airway muscles are probably more sensitive than the diaphragm [2, 3], and this sensitivity may be closer to that of adductor pollicis.

A variety of electromyographic and mechanomyographic approaches to monitoring diaphragmatic and abdominal wall muscle relaxation have been described, none of which seem to be entirely satisfactory and certainly not for routine use. Nevertheless, we recommend that, if anaesthetists are to administer suxamethonium during a recovering non-depolarizing block, they should follow Dr Black’s example. A peripheral nerve stimulator will be useful, especially while gaining experience with this technique.

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