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Paralysis after Long-Term Administration of Vecuronium: I

To the Editor:—Recently Segredo *et al.*¹ reported prolonged neuromuscular blockade in two critically ill patients with renal failure, both of whom had received a prolonged infusion of vecuronium. The problem of prolonged paralysis when a vecuronium infusion is used in the presence of renal failure is not new. Although a number of reports have suggested that there is little difference between the pharmacokinetics of vecuronium in patients with and without renal failure, those reports have examined very short infusions or single bolus doses^{4,5} and are more than matched by others describing prolongation of the action of vecuronium in the presence of renal failure.^{1-3,6-8*} Indeed, the actions of most neuromuscular blocking agents are prolonged in renal failure (see Bevan *et al.*).⁷

It is the routine practice in our intensive care unit to monitor neuromuscular blockade whenever neuromuscular relaxants are used. Thus we hope to maintain neuromuscular blockade at whatever level we require, and avoid the problems of prolonged paralysis. I therefore urge others to adopt the practice of neuromuscular monitoring in the intensive care unit. Few anesthesiologists would use a muscle relaxant in the operating room without monitoring neuromuscular blockade; why should there be a different standard in the intensive care unit?

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In Reply:—Dr. Pollard's two main messages should be apparent to all clinicians. First, to monitor the response to a neuromuscular blocking drug when given to patients in the intensive care unit is obvious. Second, we agree that the most recent publications suggest that prolonged administration of vecuronium to patients with renal failure may result in an increasing duration of neuromuscular blockade. Vecuronium is the drug that often is given to these patients because of its lack of cardiovascular effects. The point of our report is that the 3-hydroxy metabolite of vecuronium appears to be important in patients who have received vecuronium for several days. This finding has not been suggested or reported in any previous publications.

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