More about the Pharmacokinetics of Vecuronium and Pancuronium

To the Editor:—Cronnelly and his colleagues1 have reported a comparison of the pharmacokinetics and pharmacodynamics of vecuronium and pancuronium. I believe there are two problems with the articles that commonly are found in many similar articles.

First, they report the results of fitting the plasma concentrations of drug to a three-compartment model. The half-life of the fastest component with both drugs is of the order 2.5 min. However, on examining their sampling schedule they only obtained their first blood samples 10 min after the end of the infusion of the neuromuscular-blocking drugs. By this time, the rapid distribution phase would be about 94% complete. How much better a fit do they get using the three-compartment model rather than a two-compartment one?

Secondly and more importantly, the authors do not give all the parameters of the models they use. I believe that if pharmacokinetic and dynamic analysis is to be of use, then it must not only be descriptive of the results obtained in any one investigation but allow predictions of what may happen when different techniques of using the drugs are employed. With a three-compartment model it becomes necessary to give not only the three half-lives but also the three volumes. Better still would be the publication of all the intercompartmental rate constants.

JOHN NORMAN
Department of Anaesthetics
Southampton General Hospital
Tremorina Road
Southampton SO9 4XY
England

REFERENCE
(Accepted for publication October 17, 1983.)