In response to: “Pharmacokinetic modelling of modified acetylcysteine infusion regimens used in the treatment of paracetamol poisoning”

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To the Editor:

We read with interest the recent paper by Wong et al. [1]. While the model is interesting, these data and results must be interpreted with caution.

The three-compartment model described in this paper was adapted from Brown et al. [2] and may not apply to patients with acute acetaminophen ingestions. The original model was derived from healthy male volunteers during states of minimal and strenuous exercise and therefore may not be representative of acutely poisoned patients. Furthermore, toxicokinetics derived from actual poisoned patients must be obtained to determine the efficacy of any N-acetylcysteine regimen that is different from the standard three-bag regimen.

Another concern is the meaning of the term “detectable” NAC. The presence of “detectable” NAC after the abbreviated 12-h infusion has not been demonstrated to have clinical significance and therefore is not sufficient evidence of a hepatoprotective effect.

The standard three-bag N-acetylcysteine regimen was designed to provide an adequate amount of antidote to detoxify NAPQI in patients with ingestions resulting in serum APAP concentrations of up to about 500 mcg/mL at four hours, assuming initial normal hepatic function. This regimen has been

effectively used for years and has stood the test of time. A recent paper by Cairney et al. [3] of 727 patients who received traditional intravenous NAC for acetaminophen overdose reported no deaths.

In conclusion, although this paper is thought-provoking, there are some fundamental errors in methodology and conclusions. We caution using data from this paper to treat patients with acute acetaminophen overdoses.

References

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