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In Response to: “Hypertonic saline therapy for cerebral edema in diabetic ketoacidosis: no change yet, please”

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Keywords

Hypertonic saline; mortality; DKA

In response to the paper by DeCoursey and colleagues (1) and the editorial (2), Drs. Tasker and Burns present an argument to temper the impression that the use of hypertonic saline is associated with harm in pediatric diabetic ketoacidosis (3). Their main argument surrounds the significant decrease in DKA related mortality and the significance of the mortality effect with hypertonic saline only when age and race were excluded from the model. The facts surrounding the age and race effects of DKA related outcomes have, as Tasker and Burns comment, previously been documented. However, in the present study where age and race were missing < 10% of cases, these two potential confounders were not significant in the multivariable analysis and hence were excluded from the final model, where hypertonic saline was associated with mortality. This approach of removing variables from final models when they are not significant is not uncommon and considered to be a valid methodological process. While Tasker and Burns make the good point that an observed 83% decrease in mortality coincident with the use of hypertonic saline should not translate to a reversal to the use of mannitol per se, DeCoursey and Colleagues appropriately and cautiously conclude in the paper, “... equipoise regarding choice of therapy for treatment of cerebral edema in diabetic ketoacidosis should be maintained until a more definitive study is performed to guide therapy of this potentially lethal complication,” reflecting the intent of the message by Tasker and Burns. It appears that we are all in agreement that future work is needed to elucidate not only the DKA condition but also the mechanisms of the treatment paradigms, which when employed without evidence, may cause harm.

References

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3. Tasker RC, Burns J. Hypertonic saline therapy for cerebral edema in diabetic ketoacidosis: no change yet, please. *Pediatr Crit Care Med*. 2014 in press.