Reviewer's report

Title: Phase II trial of isotonic fluid resuscitation in Kenyan children with severe malnutrition and hypovolaemia

Version: 1 Date: 6 July 2010

Reviewer: Joseph Carcillo

Reviewer's report:

A very nice but underpowered study demonstrating no differences (no statistical difference) in outcome between RL and HSD fluid resuscitation in diarrhea and dehydration shock + presumed septic shock. However, all benefits went in the direction of RL. It highlights the need to study current recommendations for fluid resuscitation in severely malnourished children with shock.

1) I suggest considering removing albumin from the abstract. Also the abstract is a bit unclear. Make sure that the reader knows from the abstract that the diarrhea, dehydration, shock group was treated differently than the presumed septic shock group in terms of fluid resuscitation amounts.

2) Please state in the paper whether inotropes or vasopressor or hydrocortisone were used in any of these children. Whether any hemodynamic monitoring including CVP was used. I presume not but it is important to document.

3) I could not find a table nor text documenting the amounts of fluid given in each arm? Serum sodium levels, glucose levels after resuscitation?

4) My conclusion is a little different. In this study RL was associated with less oliguria, tachycardia, shock and mortality but because it was not performed to the end it is not known whether these differences were real?

5) Did I miss the power calculation? The study was designed for 45 per HSD and TL groups and 20 in albumin but stopped at half this amount. Was this the decision of the DSMB? was there a DSMB? If there was a DSMB and they stopped the study then fine. Otherwise I suggest changing your title to pilot study rather than Phase II study. If you wish to keep Phase II then it would be nice to now run a power/sample size calculations to determine how large of a study is required to repeat a Phase III HSD vs LR study.

Thank You for the opportunity to share your outstanding work

JA Carcillo

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Acceptable
**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests