Reviewer's report

Title: Growth, immune and viral responses in HIV infected African children receiving highly active antiretroviral therapy: a prospective cohort study

Version: 9 Date: 12 May 2010

Reviewer: Celia Dana Claire DC Christie-Samuels

Reviewer's report:

Thank you for the opportunity to review the manuscript entitled “Growth, immune and viral responses in HIV-infected African children receiving highly active antiretroviral therapy: a prospective cohort study” for consideration for publication in BMC Pediatrics.

The paper reports a robust increase in height and weight z scores during the first 48 weeks of HAART in African children, including those who failed to completely suppress virus. Older children initiating HAART with severe immune suppression were less likely to achieve a successful treatment outcome. These data emphasize the importance of initiating HAART early to ensure adequate immune and growth responses.

The objective of the study is well-defined and attempts to document the growth response to HAART in a cohort of HIV-infected Ugandan children and to determine clinical factors including growth parameters associated with successful virologic and immunologic treatment outcomes.

The methods to accomplish these objectives seem appropriate and are well described. However, the weakness is that an appropriate comparative control group, such as, age-matched, HIV-exposed children but HIV-negative children from the same communities were not included. On page 12, first para of the discussion, the authors make a strong case for increased growth velocity in younger children as compared to older children (which is expected) and without an appropriate control group, I wonder if these conclusions should be worded so strongly.

The data are sound. However, is clarification needed for subject accounting, viz?
Page 5: 130 HIV-infected children were enrolled…. 124 had growth measurements available and completed followup …. except 7 who died (should leave 123, yes?)
Page 9, para 1, Then “98% (122/124) completed followup”, contradicting the next sentence where it states that “Seven children died during study followup”
Page 14, last para, then states that “no child lost to followup”? Clarification needed?

The manuscript adheres to relevant standards for reporting and data disposition.
The discussion and conclusions are well balanced and adequately supported by the data. However, more could be said throughout the manuscript about “other clinical factors” although WHO staging mentioned briefly, this was part of the stated objective.

Page 13, second para, I wonder if some comments could be made about early infant diagnosis with DBS testing to identify infected infants by 4 months of age, to initiate HAART, even before they become symptomatic? Is it possible in this setting?

But for the lack of a control group, the limitations of the study are clearly stated.

The authors clearly acknowledge the work on which they are building, except perhaps for more fulsome referencing of similar reports from other parts of the developing world.

Page 12, second para, first line: I wonder whether the statement could be expanded, viz: “Similar to other studies from Africa and other parts of the developing world,…… and the relevant references added?”

The title and abstract accurately convey what has been found.

The scientific writing of the manuscript is exceptional.

Minor essential revisions to Table 1, please, would you insert years (for age) and be consistent in the use of %, whether at the subtitle (ie., number/%) or beside the actual figures eg., 63 (51%), as currently both are used throughout?

Recommendation: Accept for publication with discretionary revisions.

I declare no competing interest in reviewing this manuscript.

Celia DC Christie, MD, MPH, DM (Peds), FAAP, FRCP(Edin)
April 2010

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

'I declare that I have no competing interests'