Reviewer's report

Title: Renal abnormalities among HIV-infected, antiretroviral naive children, Harare, Zimbabwe: a cross-sectional study

Version: 2 Date: 10 January 2013

Reviewer: Nicola Cotugno

Reviewer's report:

1) Although the question posed by the Authors to define the prevalence of proteinuria, urinary tract infection and low eGFR is well defined, considering what reported in the text the Authors should better state that another aim of the study is to relate these events with clinical data (relating factors) which could in turn give some relevant information to physicians working in those specific setting. This should be better clarified in the introduction section.

2) In the introduction, first paragraph, the first sentence seems to be quite isolated and is not well supported by the literature, Authors should clarify better the reason why "kidney disease is becoming" a public health disease, specifying in which scenario. The sentence seem to refer to general population, in this case how does it relate to HIV infected persons, and specifically, how does it relate to renal function in HIV infected children in Africa.

3) Introduction, third paragraph. It should be stated what is changed in kidney disease after HAART era, even if the study is related to HAART naïve children. There are several studies relating HAART to renal impairment, tubular dysfunction and other DAIDS event, all this part cannot be omitted even if the study is on HAART naïve children.

4) Introduction, third paragraph. There is no mention of the virus related renal damage or to the damge related to the immune impairment which incur during chronic or acute phase of the infection. This issue should be discussed and supported by specific literature.

5) Introduction, first paragraph, last sentence. In this case tha Authors should update the literature, several papers have been published in the last 2 years and should be cited (e.g. Ekulu PM et al 2012; Ray PE 2011 etc).

6) Methods/Results. The Authors should better state why they decided to use Counahan-Barratt formula since most of the study assessing renal function in children use Schwartz formula. Authors should justify their decision otherwise a change into Schwartz formula is strongly recommended.

7) In the Results," WHO HIV staging of the children" paragraph. These data can be easily added to Table 1 that should clarify all the factors exposed in the entire population and in the patients presenting with persistent proteinuria.
8) Results, "WHO HIV staging of the children" paragraph, the Authors should state the CD4 (%,##) levels according to the different immunological stages defined by the WHO.

9) Results should include the level of HIV-RNA, which are not mentioned in the manuscript. These data would be extremely important to define the phase of the disease and in turn to define the virus-related renal impairment.

10) Discussion. Discussion should be revised and updated with more recent published findings.

11) Discussion, first paragraph. The study doesn’t show a “reduction” of the eGFR since it has not been showed in two different timepoints. Sentence must be reformulated.

12) Discussion, fourth paragraph: in this part although is clearly mentioned that young age is more likely to be associated to normal eGFR, however this is not discussed enough. Authors should discuss if it is due to the phase of the disease. Moreover as previously suggested for the introduction, the Authors should better state in the discussion the immunological and virological impact on the renal impairment.

13) Discussion "UTI" paragraph, third paragraph. Authors should state what this paragraph add to the study since it has been already presented in the table and in many other studies.

14) The Authors should include more specific data on tubular damage such serum potassium and phosphorus. Moreover more specific urinary markers such as B 2 microglobulinuria, urine electrolites should be included in the analysis. If not available these limits should be better stated in the last paragraph of the discussion.

Minor Essential Revisions

1) Table legens should include the type of statistical analysis used. It should be stated p values what is referring to.

2) Levels of Blood pressure defined as “normal” should be stated and defined as an age related scale in the methods.

3) Figure 1 is not clear. It is not defined in the figure legend what colours in the bar plot are referring to and the 4 couples of barplots are referring to as well.

4) In the tables, first line format (bold, curstive etc.) is not always repeated in the other lines.

5) Minor revisions must be reanalyzed after the Authors provide modifications to the Major compulsory revisions.

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

**Quality of written English:** Not suitable for publication unless extensively edited

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests.