Reviewer's report

Title: Profile of blood cell abnormalities among antiretroviral therapy naive HIV patients attending the Yaounde University Teaching Hospital, Cameroon

Version: 3 Date: 16 August 2014

Reviewer: Andrew Kerkhoff

Reviewer's report:

Overall, the manuscript has greatly improved in quality and succinctness. However, the discussion and conclusion are not as focused or well-organized as they could be. I am not left with a strong impression of how these results expand the literature, or what the authors feel the implications of their results are. Please focus on these points to improve the discussion/conclusion as the results clearly show that blood cytopenias of all three cell lines are strongly and directly related to severity of immunosuppression and HIV disease stage.

Abstract

Minor
-line 36: clinical examination (was done)
-line 42: consider, patients with lower CD4 counts and advanced clinical stages had a greater occurrence of blood cytopenias. (don’t write significantly, this is implied by your p-value)
-line 46: write lower CD4, or with advanced immunosuppression… immunological classes is not a universally described term.
-line 47: thus, although all HIV patients...

Background:
-Line 73: the relationship between anaemia and mortality has been shown in dozens of papers. You should include additional references from developed and developing settings... suggested additional references:


-line 77: how do peripheral blood cell abnormalities affect treatment? You need to explain this.
Methods:
-line 106/107 expressed as proportions or percentages and were as categorical variables.
-line 112: incorrect reference. Suggested reference:

Results:
Overall you need to explain your findings better…they are poorly articulated. Tables 4 and 5 both show that anaemia, leukopenia and thrombocytopenia are all strongly and directly related to CD4 cell counts and WHO disease stage, where the lowest prevalence of blood cytopenias is among those with stage 1/CD4>500 and the highest prevalence of all three cytopenias is among those with severe immunosuppression and stage 4 disease. With the exception of leukopenias by WHO disease stage, these all demonstrate beautiful graded associations.

Discussion
-In general, the discussion section still repeats much of the results without giving much information on how the results expand the literature or what the implications of the results might be…Should all anemic patients in endemic areas be screened for HIV? Should all HIV+ patients get an FBC at diagnosis? How will this impact care? Do some require more frequent follow up given their high risk of death? Should they be considered for earlier ART initiation? Do you propose any future studies that may build upon this work?
-Also, the discussion does not appear to be well organized and gives the sense of jumping around a lot. Consider if there is a more logical way to organize this section.
-There is still no discussion of strengths of this paper and weaknesses is a long run on sentence that is not well-written.
Minor:
-Lines 178-180: this is not an adequate explanation for poor bone marrow response… it’s largely an upregulation of cytokines in response to HIV infection which causes dysregulated hematopoiesis… HIV may also directly infect bone marrow progenitor cells but this is controversial. If it chronic infections, which ones? TB may directly invade the BM causing granulomas or fibrosis, but its main effect on BM is also thought to be BM driven. MAI may infect the BM etc…. be more specific…
-line 191: to say chronic infections as most would interpret this to mean anaemia of chronic infection which only rarely may cause a microcytic anaemia. If you mean parasitic infections then simply say so

Conclusion
General/major
- you mention that health regulators should provide blood counters that count reticulocytes, but why? This is the first time in the paper you mention this. Does knowing a reticulocyte in your setting change patient management? If so, how? Put this is in the discussion section!

Minor
-231: the most common.

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

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