Reviewer's report

Title: Drug resistance in HIV patients with virological failure or slow virological response to antiretroviral therapy in Ethiopia

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Reviewer: Mariza Morgado

Reviewer's report:

The study presented by Abdissa et al aimed to assess the prevalence of virological failure and resistance mutations in patients initiating antiretroviral treatment in Ethiopia. The authors based their analyses in a prospective cohort of 318 HIV seropositive patients initiating the first line antiretroviral therapy and complete results of viral load were available for 256 patients at baseline and 6 months of follow-up. From them, virological failure was observed for 14 participants and genotyping at baseline and 6 months visits were available for 12. Genotyping was also available for samples from three additional patients classified as slow responders.

The manuscript is well written and the data concerning the prevalence of virological failure and the genotyping profile of failing patients are quite relevant.

Major Compulsory Revisions:

1) Concerning the evaluation of transmitted drug resistance, in the abstract the authors state that 6/256 patients harbored resistance mutations at baseline. In the results, however, they only refer to 6 of 12 failing patients. Indeed, in order to assess the prevalence of transmitted drug resistance mutations (TDRM) the authors should have tested the total of samples at baseline and not only those from patients presenting virological failure at 6 months of follow-up. Although these ones might have more chance of failure, among the 12 individuals analyzed 7 had mutations at baseline, one of them not conferring resistance by itself, but not the other 5. For two of them, one from each group, virological failure was not associated with the presence of drug resistance mutations at 6 months of follow-up. Although in the discussion (pag 14) the authors stated that the data presented document the existence of transmitted resistance, and that a larger sentinel study would be necessary, they did not present an explanation justifying why they did not sequence the remaining samples. In my opinion, this is a strong limitation of this manuscript to be published as full paper. The paper is too long for the amount of the results presented and should be shortened.

2) For drug resistance analyses the authors used the same algorithm for assessing both transmitted and acquired DRM, while they should have used the CPR Tool for TDRM and the HIVdb for acquiring DRM.

Minor Essential Revisions

There is no information about the submission of the sequences to the Genbank.
Level of interest: An article of importance in its field

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