Reviewer's report

Title: HIV-1 Drug Resistance-associated Mutations among HIV-1 infected Drug-naive Antenatal Clinic Attendees in Rural Kenya

Version: 2 Date: 22 July 2013

Reviewer: Alessandro Soria

Reviewer's report:

In this brief report Kiptoo and colleagues describe the HIV-1 genotypes of 188 women attending antenatal care in rural Kenya.

The paper is well written, clear, simple, and informative. In the light of expanding HIV treatment in rural sub-Saharan Africa, it is essential to gain data on transmitted resistance, in order to optimize treatment strategies and diagnostic algorithms. Therefore, data provided by these paper are precious and should be shared.

However, there are some revisions that should be made for clarity and precision.

Background

The latest data on ART coverage are confused. NASCOP should be spelled (I googled it and found National AIDS and STI Control Programme!). Data are available on the latest report of WHO/UNAIDS, and more specifically in the annexes. I found this document, easily accessible via web. http://www.unaids.org/en/media/unaids/contentassets/documents/epidemiology/2012/gr2012/JC2417_GR%202012_Annexes_en.pdf.

It should be cited as a normal reference instead of the “avert.org” website (which is just reporting WHO data). The estimate of ART coverage at the end of 2011 was 72% (68-76%); at the end of 2009 it was 51% (48-54%).

In the second paragraph of introduction, when the authors speak about the development of resistance, it should be mentioned also the problem of transmitted resistance, that is particularly relevant for NNRTI mutations, and could be a serious threat to the efficacy of first-line antiretroviral therapy in low income countries. The sentence about the change in replicative fitness is redundant and should be canceled.

Results

Some questions on the numbers:

Why 298 samples available on 309 women who were asked for participating in the study? Did those 11 subjects refuse to participate? And in this case, are there specific reasons for refusal?

37 out of 254 samples were excluded for potential bias because they belonged to women who had been previously exposed to single dose nevirapine: it remains 217 samples. In the paper there are 188 samples described: 29 samples are missing: where are they?
In the second paragraph there is probably a typing mistake in the number of recombinants: it is written 29, but they are 26, as correctly written in the abstract and in the table.

Discussion

A key point is missing in the discussion: the data were gathered in the years 2005-2006, when ART coverage was around 20% in Kenya. Now ART coverage is estimated to be around 72% (maybe more), so that the scenario could have completely changed. This point should be clearly stated in the discussion and stressed as a limitation of the study; it could be also seen as a strong point in favour of fostering research on resistance surveillance in order to have results on naïve population rapidly available.

**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