Reviewer’s report

Title: Dyslipidemia in HIV-infected women on antiretroviral therapy. Analysis of 922 patients from the Spanish VACH cohort.

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Reviewer: Marianna Baum

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This is a well-written paper describing dyslipidemias and associated factors from a large cohort of HIV+ women on antiretroviral therapy. The authors found that in this cohort of women, the NNRTI-based ART is associated with a better lipid profile than the PI-based ART, and that some factors unrelated to ART selection may also exert a significant influence on plasma lipids.

The question is well defined, the methods are appropriate and well described with some exceptions listed below, the data appear sound, and the manuscript adheres to the relevant standards for reporting. The discussion and conclusions are well balanced and adequately supported by the data, the limitations of the work were stated, the title and abstract accurately convey what has been found, and the writing is acceptable. The manuscript however, needs further descriptions and discussion in the following areas:

More detailed description of the results as to which specific variables were entered into the statistical analyses is needed as many variables were collected, but it is not clear if they were all entered into the analyses.

There is no mention of whether the 43.7% of the participants who were also hepatitis C positive used antiretroviral medications for hepatitis C, whether the extent of liver fibrosis was known and accounted for, and whether the different stages of liver fibrosis affected plasma lipids differentially.

Figures 1A-D are not very informative and it may be better to present the data in the form a table.

The BMI in the study sample was within normal ranges of 20-25, which is rather unusual, judging by other HIV infected samples of women in the literature. Have women with higher BMI been excluded from the analyses? In either case, the authors need to comment on this in the Discussion.

No comparison has been made to values in HIV seropositive males; thus, the uniqueness of this female cohort is lost in the absence of comparison to comparable sample of males. Also the data is not discussed in terms of women’s health, but rather in terms of the variables that were or were not significantly related to each other.

In the Discussion the authors state that this is the first study describing the
influence of ART on dyslipidemia in HIV infected women. They fail to cite earlier similar studies in women with similar findings however, such as Anastos et al, “Association of serum lipid levels with HIV serostatus, specific antiretroviral agents, and treatment regimens.” J Acquir Immune Defic Syndr. 2007 May 1;45(1):34-42; as well as Tien et al, “HIV, HAART, and lipoprotein particle concentrations in the Women's Interagency HIV Study,” AIDS. 2010 Nov 27;24(18):2809-17, and perhaps others.

Total cholesterol (TC) is frequently abbreviated as CT instead of TC, in the text and in the tables. There are also other minor typographical errors.

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

**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.