Reviewer’s report

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

Version: 2 Date: 31 March 2011

Reviewer: Soumya Swaminathan

Reviewer’s report:

This manuscript describes cross-sectional findings from a large observational cohort at multiple sites in Spain. The main objectives stated are to describe the lipid profile of a cohort of women on stable ART and analyze differences that could be attributed to different regimens or baseline patient characteristics/risk factors. There are some general comments and some methodologic issues that need to be addressed.

General Comments:
1. Overall, the manuscript is fairly clear in describing the objectives, methods and findings.
2. There is need for some editing with respect to language and grammar.
3. The authors should discuss the relevance of their findings/generalizability to patient populations in developing/developed countries
4. The authors should discuss their findings in the broader context of ART and discuss the implications of their work for policy and practice

Major Compulsory Revisions
1. Authors mention providing mean and SD but this has not been done. All variables reported appear to be median and IQR. If most of the data is non-normally distributed, then it is better to use all non parametric methods for analysis.
2. The correlation coefficients shown in Table 3 are mostly weak (even though statistically significant) except for LDL chol and triglycerides. Table 3 can be deleted and only the meaningful results provided in text. The multivariate analysis provides more robust results anyway
3. It may be useful to have odds ratios and 95% CI presented in Table 4 instead of the beta coefficient.
4. In the summary/conclusion, only those variables that were significant in the multivariable analysis should be listed as factors influencing lipid levels (age, triglycerides, HCV co-infection). BMI and PI treatment were borderline after adjustment for other factors and this should be mentioned. The conclusions in the abstract also need to be modified appropriately (the last sentence of Results in the Abstract contradicts the conclusions).
Minor Essential Revisions
1. Laboratory methods with details of equipment used for measurement of lipids should be provided
2. In Results
   - the word "lineal" should be replaced by "linear" when it is used with regression
   - The numbers of patients in each of the 4 groups should be provided in the text. Since the numbers in the PI+NNRTI group are so small, the statistical differences are not so meaningful or reliable. Authors may consider dropping this group from the main analysis and figures and provide this as additional information in the text (just to give an idea of the results)
   - In Table 1, the total n should be provided with the heading and any rows with a different n should mention that
   - mean and SD should be corrected as median and IQR
   - The no. of patients in each of the ART groups should be provided in addition to %
   - How was the accumulated time on ART calculated? 922 patients with a median ART time of 22 months should come to more than 116 months
   - in the examination of the interaction with TG levels, it appears that at CD4>200, the interaction term was significant and may have impacted the relationship between the treatment group and the TC/HDL ratio. Could the authors explain why they did not consider this in the interpretation of findings?

Discretionary revisions
1. In Methods, authors mention that only patients on ART for > 3 months were included - was there an upper limit to the number of years?
   In Discussion
2. What is the 903 study? Please spell it out
3. Another limitation to be added is the cross-sectional nature of the study with no follow-up or outcome data presented. It would be valuable to have a correlation with clinical endpoints especially those related to cardiovascular status
4. The conclusions drawn are weak and there are no clear recommendations or suggestions for future research or changes in practice.

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

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