Author's response to reviews

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

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Author's response to reviews: see over
Responses to the reviewers and point-by-point description of the changes made:

**Dr. Baum**

1. 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: As suggested by the reviewer, in Results section of the manuscript we have specified in brackets the variables included in multivariate analysis.

2. There is no mention of whether the 43.7% of the participants who were also hepatitis C positive: Unfortunately no information was available at the time of the study analysis about liver fibrosis degree or specific treatment for hepatitis C. This has been recognized as a limitation of the study in the discussion.

3. Figures 1 A-D are not very informative and it may be better to present the data in the form of a table. We believe, nevertheless, that the information presented of this form allows visualizing in a much simpler way the differences as for the lipids found among the different groups of treatment. Nevertheless, we will follow the indications that the editor should indicate us.

4. The BMI in the study sample was within normal limits. This was a mistake due to the fact that in the initial description of the table 1 was indicating the median and the interquartile range, not the general range. This has been corrected now and the media and the standard deviation of the BMI is 23.7 ± 4.4

5. In the discussion the authors state that this is the first study describing. This mistake has been corrected and the references have been included as suggested.

6. The abbreviation of total cholesterol (TC) has been inadvertently confused by CT; this mistake has been solved in the new version of the manuscript.

7. Laboratory methods for measurements of lipids era presented in the methods section.

8. The word “lineal” has been replaced for “linear” as suggested.

9. The modifications suggested in Table 1 have been done.

10. The time accumulated in each of the drugs of the antiretroviral therapy was calculated adding the number of months that the patient was in treatment with a specific drug. When we refer to the current treatment we indicate that the patient was taking in the moment of the analysis, which for definition of the protocol, had to
be of at least 6 months. Though the design of the study does not allow establishing a cause and effect relationship, we consider this period of time because a temporary association with a certain drug should consider it to be at least that the patient should take a certain time taking before the analysis.

11. **The interaction between PI treatment and triglyceride** levels on TC/HDL ratio has been considered in the results section. The interaction did not reach statistical significance (p=0.252), showing that the relationships between variables TC/HDL ratio and PI treatment group were not modified as a function of the TG level.

12. **The 903 study** is now described more in detail in the text and a new reference has been added.

13. We have been included a short consideration of *potential practical interest* on the results of the study.

**Dr. Swaminathan**

Major 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. In Table 1, continuous variables are shown as median and interquartile range (IQR). We have reviewed all data of quantitative variables in Table 1 of the manuscript; those variables with a normal distribution are now described as mean and standard deviation; those without a normal distribution are presented as median and IQR.

2. It may be useful to have odds ratios and 95% CI presented in Table 4 instead of the beta coefficient. In the present analysis we have fitted a multiple linear regression analysis in order to identify the independent factors that were associated with the ratio TC/HDL, that is the dependent variable of the model. In the multiple linear regression analysis, the beta coefficient represents the change in the mean response in the ratio TC/HDL corresponding to a unit change in the independent coefficients.

3. The correlation coefficients shown in Table 3 except for LDL and triglycerides. This table has been deleted as suggested and the meaningful results described in the text.

4. Conclusions in the abstract and summary/conclusions in the text have been modified according to the suggestions of the reviewer.

Minor revisions:
5. The word "lineal" should be replaced by "linear" when it is used with regression: This has been changed as recommended.

6. 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). The number of patients in each group are now included in Table 1. Figure 1 shows the differences in metabolic parameters which specify the sample size in each group. We decided to create these 4 groups to discriminate differences in metabolic parameters depending on the combination of current treatment. Later in the univariate and multivariate analysis were further analyzed the two binary variables NNRTI therapy (yes / no) and IP (yes / no).

7. In Table 1, the total n should be provided with the heading and any rows with a different n should mention that: As a reviewer’s suggestion, now is specified in the title of the table the total number of subjects in the sample. Specified in parentheses next to each variable, the number of patients which has been able to assess this characteristic. The variables that do not specify the sample size is because it has been assessed in all subjects. This is explained in the footnote of the table.

More changes made to the initial manuscript

1. All changes made in the original manuscript have been highlighted in yellow
2. It has conducted a comprehensive review of the grammar by a native English
3. A small error was detected in statistical analysis and modified accordingly (Kruskal Wallis test instead of median test)
4. Reference number 32 has been changed to a more recent reference (previous number 30, Grunfeld C. Dyslipidemia and its Treatment in HIV Infection. Top HIV Med. 2010; 18: 112-8.)