Reviewer's report

Title: Liver fibrosis and accelerated immune dysfunction (immunosenescence) among HIV-infected Russians with heavy alcohol consumption - An observational cross-sectional study

Version: 0 Date: 16 Feb 2019

Reviewer: Zhou Zhou

Reviewer's report:

The current study analyzes the heavy alcohol drinking on immune cell senescence in Russian HIV patients and the potential relationship on liver fibrosis. Here are some major concerns:

1. Fibrosis is a long-term pathological process. In this report some risk factors are analyzed. However, how long time of exposure of these factors are not sure. The authors need to determine some of the crucial long-term risk factors and determine whether they may really contribute to fibrosis. The years of HBV/HCV infection, years of steatosis, years of heavy drinking, years of smoking, and years of overweight are some parameters to be better defined. If the authors make analysis on short term effects on the immune system according to the fibrosis level, the results may well be negative. However, it may not accurately present the relationship of the analyzed terms.

2. The authors say the advanced fibrotic group has higher HIV RNA replication. However, it does not show in Table 1.

3. What are the numbers in Table 2 and 3? Are these flow cytometry result percentage of a group? If so, the authors need to show the flow cytometry strategy and define the percentage of which group is shown. If the results are the cell concentration, the authors need to put unit into all the results. In the current study, the cell concentration is needed for calculation.

4. The authors need to provide better description how Table 4, 5 and 6 is calculated. As described in the method section, the slope is calculated according to multiple linear regression and then the authors showed the advanced fibrotic/non-fibrotic ratio. If this is the case, the authors need to present the original slope for all the categories for each group, instead of a simple ratio. Also, for many parameters, including sex, whether fibrosis is advanced, whether the patients are currently smoking, whether the patients have hepatitis, there is no continuous base for regression, while others such as age, years of HIV diagnosis or HIV copy, actually have the continuous base for regression. How can the authors put the data together to make one regression analysis? Did the author actually work on some regression analysis and some others simply to categorize the data with other analysis?

5. If the authors analyzed the data through multiple linear regression, have the authors analyzed interaction effect between different factors?
6. The authors used one category for continuous regression in Table 6. To make the work complete, a similar analysis on memory T cell/naïve T cell as well as CD4+ T cells should be presented.

7. The authors should discuss the reason and indication that the results in the current study are negative regarding the effect of HIV infection.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

No

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

**Quality of written English**
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Acceptable

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