Reviewer's report

Title: Poor Agreement between Interferon-Gamma Release Assays and the Tuberculin Skin Test among HIV-infected individuals in the country of Georgia

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BMC Infectious Disease

Title: Poor agreement between Interferon-Gamma Release Assay and the Tuberculin Skin Test among HIV-infected individuals in the country of Georgia

This is a cross-sectional study, which investigated the performance of two interferon-gamma release assays (IGRAs) compared to the tuberculin skin test (TST) for the diagnosis of latent tuberculosis infection (LTBI) among HIV-infected individuals in Georgia. The authors insist that this is the first study to evaluate performance of three diagnostic tests for LTBI in HIV patients in the Eastern European region. They also say that there was very poor agreement among all tests, although a high proportion of HIV patients had at least one positive diagnostic test for LTBI. I would like to comment the following aspects.

Major Compulsory Revisions

1. The purpose of this study

1-1) In abstract, there is only one study purpose (performance evaluation of the tests). However, in the last paragraph of Background, there are two study purposes: 1) assessing performances and 2) identifying risk factors.

1-2) The purpose should be presented consistently throughout the text, and if there are two purposes, the authors provide clear conclusions about both of them.

1-3) Moreover, there is no background explanation for the second purpose in the Background section.

2. Backgound

The Background section is overall lengthy with general & broad descriptions. It should be described compactly and more focused on the necessity of this study.

3. Methods

The third section of ‘Other measures’ should be merged into the first section of ‘Study setting and population’.

4. Results
4-1) The first section of ‘Study population’ is NOT the results corresponding to the study purpose. This section should be moved to Methods and should be merged into the first section of ‘Study setting and population’. Moreover, this section redundantly repeats the content of Table 1.

4-2) In the section of LTBI test results (first paragraph), some P values are provided with the descriptions of ‘the difference most pronounced…(p = 0.12)’ and ‘higher proportions of positive test results…. (p = 0.10)’. These descriptions are very unclear regarding the statistical significance.

4-3) In the section of LTBI test results (second paragraph), kappa values are described. The agreement based on kappa values is an important result, considering the study purpose. Although Fig. 1 is also presented in this section, there is no link between the kappa value data and Fig. 1. Kappa values should be presented in a different format (table form).

4-4) In the section of LTBI test results (third paragraph), there is no description on statistical data. This section is related to Table 3, and there is also no statistical data analysis.

4-5) In the section of Risk factors for positive LTBI test, the descriptions are mostly the repeat of Table 4. Please avoid this kind of duplicated presentations.

5. Discussion & Conclusion
Throughout the Discussion/Conclusion section, I cannot easily find the added or distinguished value of this study from the previous literature. Although this is the first study that evaluated the performance of LTBI tests in HIV patients in the Eastern European region, the originality of this study should be more emphasized and the conclusion should be clearly presented according to the study purposes.

Minor Essential Revisions
1. Some reference styles are different (e.g., journal abbreviation).
2. Table 3: Both median and average data should be provided with range and/or standard deviation. Instead of two data sets, either median or average should be chosen.
3. For clear understanding, important P values should be presented in each table.

**Level of interest:** An article of limited interest

**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.