Reviewer’s report

Title: A comparison of liquid and solid culture for determining relapse and durable cure in phase III TB trials for new regimens

Version: 0 Date: 13 May 2017

Reviewer: Jae-Joon Yim

Reviewer's report:

In this manuscript, authors investigated the clinical meaning of isolated culture of MTB on MGIT after the completion of anti-TB treatment using data set from the REMoxTB trial. The aim of this study is rational, analysis sound, and manuscript well-written.

1. (Lines 8-9, page 5)

Did participants submit two sputum specimen for LJ media and MGIT respectively or submit just one sputum which inoculated for both culture? How much amount of sputum collection was recommended? Was the induction of sputum performed when the participants no longer expectorate it? Please provide some more detail on sputum collection.

2. (Lines 13-15 of page 7)

Generally, the contamination rate is know to be higher on liquid media than on solid media. However, in this trial, contamination rate was higher on LJ media (1.2% + 9.8%) than on MGIT (1.2% + 4.7%). How do you explain it?

3. (Lines 7-12 of page 8)

One laboratory comprised 21.9% of positive post-treatment follow-up MGIT cultures in patients who have favorable outcomes. Was there any difference in terms of treatment outcomes (favorable vs. unfavorable outcomes in REMoxTB trial) between patients tested in this laboratory and patients whose sputa were tested in the other labs?

4. Conclusion part of the abstract (Lines 13-15 of page 3)
Authors concluded that MGIT can replace LJ in Phase III TB trials. However, I could not easily find the rationale for their conclusion in the manuscript. As they mentioned (Lines 6-7 of page 11), even two or more positive results in MGIT may not be indicative of relapse. Please provide detailed basis of the conclusion.

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

Yes

**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.

No

**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**
Please indicate the quality of language in the manuscript:

Acceptable

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