Reviewer’s report

Title: Incident Mycobacterium tuberculosis Infection in Household Contacts of Infectious Tuberculosis patients in Brazil

Version: 0 Date: 02 Jun 2017

Reviewer: Christiaan Mulder

Reviewer's report:

With great interest I have read the manuscript 'Incident Mycobacterium tuberculosis infection in household contacts of infectious tuberculosis cases in Brazil'

Major comments:

- The authors conclude that their study 'suggests the existence of an immunological threshold in certain contacts that become infected only after a sustained or unusually large infectious inoculum resulting from both community and household exposures'. I believe that this is overstated as it is not supported by data from this study.

- Include in the discussion the potential practical implications of this work. Any suggestions on the LTBI-testing policies?

Minor comments:

- Please use 'patients' instead of 'cases' throughout;

- Line 50, page 8: How do the authors define 'the tail end of infections transmitted...'

- Line 29, page 9: Please explain why PLHIV were excluded?

- It's not clear if only household contacts are eligible, or also other close contacts, such as colleagues. If the latter, please use the term 'close contacts' instead of 'household contacts'

- Line 48, page 9: Contacts were enrolled within the first two weeks after the index case presented. By then, was the diagnostic result already available for all index cases? E.g., I can imagine that bacteriological results were not available yet
- Line 4, page 10: Why was CXR performed given that all index cases underwent culture?

- Line 14, page 10: How was individual contact time with the index case measured? Why was decided in Table to use a cut-off of 6 hours?

- Please include in the methods section whether BCG-status was collected and how.

- Line 45, page 10: It's unclear why IGRA-testing had to be done 8-12 weeks before TST testing. Basically you could do IGRA testing followed by TST within the same day without risk for boosting.

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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