Reviewer's report

Title: In vivo expression of innate immunity markers in patients with Mycobacterium tuberculosis infection

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Reviewer: Gerhard Walzl

Reviewer's report:

1) There are numerous associations that are proposed to be causally linked and this includes the main conclusions that these molecules are essential for the disease process and that the expression of these molecules is mediated through TLR-2. In addition the final conclusion that these markers may be candidates to replace the TST or interferon gamma release assays, given the data presented, is overly optimistic and premature. These statements require substantial revision in the abstract and in the discussion.

2) The results of the manuscript hinge on the differentiation between infection phenotypes but these phenotypes are inadequately defined, i.e. it is not clear how many cases were sputum smear or culture positive and therefore less infectious and how many of the household contacts with negative Quantiferon tests were linked to such less infective cases. How was the diagnosis of TB confirmed in lymphadenitis patients? And in TB pericarditis and pleuritis? And can these patients be considered to be infectious? Are their household contacts perhaps the QFT negative ones?

3) The suggestion that coronin-1 expression by peripheral blood mononuclear cells indicates that such circulating cells are carrying MTB is interesting but not substantiated. It may also merely reflect co-expression of coronin-1 with activation markers in the presence of pro-inflammatory host proteins.

4) The measure of exposure used in this manuscript: is there a reference for this method and how well validated is this? Sputum smear positivity and grading is included in other published studies that make use of an exposure gradient.

5) What is the QFT positivity rate in the general population where this study was conducted? The QFT results of the non-contacts are not mentioned.

6) What was the time interval between diagnosis of TB cases and examination of household contacts?

7) Introduction: some background on the current standing of tests that are in use to diagnose TB infection is warranted as the Quantiferon test is used to define participant groups.

8) The figures that I had access to are of poor and unacceptable quality and do not clearly show differences between groups. I am not sure that the correlation graphs add much additional information.

9) The manuscript needs substantial stylistic, grammatical and typographical
attention and is not fit for publication in its present state. I have not specifically commented on the multitude of such errors as this would be a very time consuming task.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Not suitable for publication unless extensively edited

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

None