Reviewer's report

Title: Mycobacterium tuberculosis ecology in Venezuela: Epidemiologic correlates of common spoligotypes and a large clonal cluster defined by MIRU-VNTR-24

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Reviewer: Yong-Jiang Sun

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In this study the authors analysed a convenient sample of 1298 MTB isolates collected in Venezuela between 1997 and 2006 using spoligotyping, while 24-loci MIRU-VNTR typing was used to further discriminate the isolates with identical spoligotypes. The study sample was fairly large and collected from multiple centres in Venezuela, the spoligotyping data could therefore well reflect the MTB population structure in the country. But unfortunately it does not provide much more information than does the previous study (Aristimuño et al., 2006. Molecular characterisation of Mycobacterium tuberculosis isolates in the First National Survey of Anti-tuberculosis Drug Resistance from Venezuela. BMC Microbiol. 6:90) in this aspect. On the other hand, the data used for phenotype-genotype relationship analyses appeared too weak to draw any sound conclusions. In addition, the data is not well presented and the manuscript is not well prepared.

Major Compulsory Revisions

1. Epidemiological data were available for only 25% to 50% of the total subjects of the convenient sample, such a low availability of epidemiological information could easily lead to bias. For example, it looks too high that 75% of subjects had cavitations; in addition, in the Delta Amacuro region, patients were younger and less males compared to other areas, how about the general population in this region compared to other regions? This should be considered when make such comparisons.

2. The authors found that the patients with ST 605 were more likely to have pulmonary cavities (when compared to all other genotypes) and more likely have AFB positive sputa (when compared to ST 53). All these comparisons are inappropriate because most of the ST 605 isolates (~70%) were from Valencia and it might also involved in transmissions among inmates in a prison and most of the ST53 isolates (~55%) were from Caracas.

3. The last paragraphs in the Background should not be here, they should be in the Results or Discussion sections.

4. Since the spoligotypes and MIRU-VNTR types all suggest that ST605 was a sublineage of LAM, then it should be named as LAMx instead of a new name “Valencia”.

5. Table 1 is exactly the same as the upper part of the first page of the
supplementary Table 2.

6. The discussion is unnecessary lengthy, it can be more succinct.

7. There are two sets of references in the manuscript. Reviewers have to guess which is the correct one.

**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.