Reviewers report

Title: Use of genotyping based clustering to quantify recent tuberculosis transmission in Guadeloupe during a seven years period: analysis of risk factors and access to health care

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Reviewer: Sebastien Gagneux

Reviewers report:

This paper reports on a molecular epidemiological study of TB conducted in Guadeloupe between 1999 and 2005. During these 7 years, the authors recruited a total of 129 culture-positive TB patients from which M. tuberculosis (Mt) isolate could be obtained. Among the main findings are that 51% of these cases where foreign-born (mainly from Haiti), and that among these foreign-born patients the proportion of TB/HIV and extrapulmonary TB was higher than in French patients. The proportion of recent transmitted TB was estimated at ~18%. No risk factors could be associated with clustering.

My comments and suggestions for (essential) revision are as follows:

1) Ethics: under the Methods section the authors claim that the TB patients provided “oral consent” but under “Ethical considerations” it is stated that the study participants signed a agreement letter. Please clarify. Also, was this study reviewed (and approved) by a formal ethics committee (i.e. what are the French National Order of Physicians and the French National Commission of Informatics and Liberties)?

2) The authors also looked at “access to healthcare” and observed significant delays, which I think is interesting and important. However, these findings are not referred to in the abstract. It would also be interesting to look in a stratified manner comparing foreign-borns and French.

2) The socio-economic assessment and the finding of 824 EUR/month is difficult to interpret in absence of a reference. Please provide some data that help put these figures in perspective.

3) Foreign-borns were more likely to by TB/HIV co-infected and also showed a higher proportion of extrapulmonary disease. These observations are likely not independent which has not been assessed since only univariate analyses have been performed. TB/HIV are generally more likely to have extrapulmonary TB so it would be important whether these variables are independently associated with foreign-borns.

4) The authors refer to the “ill-defined” T spoligotype, and as shown in Figure 1, these strains are indeed paraphyletic. So what is the justification to group them into one group?
5) On multiple occasions the authors refer to “contamination” which would better be described as “infection”. Please change accordingly.

6) The discussion starts with the claim that this is the first prospective molepi study of TB in Guadeloupe. However, the authors published a similar study in 2012 where they looked at patients recruited between 2006-2011 (Ref. 23), hence this claim is not entirely correct. I just would delete it.

7) Overall, it is not quite clear what this new study adds in terms of new knowledge compared to the previously published one. Overall, the authors should stress these novel aspects more.

8) Among the clustered cases, where there instances where foreign-borns infected French patients or vice versa? What was the proportion of such “mixed” clusters?

**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.