Reviewer's report

Title: Comparison of rapid tests for detection of rifampicin-resistant Mycobacterium tuberculosis in Kampala, Uganda

Version: 1 Date: 12 March 2009

Reviewer: Voahangy Rasolofo Razanamparany

Reviewer's report:

General comments:

MDR-TB is defined as TB resistant to at least isoniazid and rifampicin, the major antibiotics used in the treatment against tuberculosis. Since MDR-TB could be a threat to the success of National TB control programs in developing countries, rapid tests to detect MDR M. tuberculosis strains are needed in high TB burden countries. So the manuscript is interesting. The objectives are clear.

* Major Compulsory Revisions

Methods:

1- Lines 121-122, the authors wrote “Generally, in addition to the BACTEC 460 indirect test, specimens were used to test only one rapid method”. There is no description of the selection of samples tested by each of the different rapid methods. Was it a consecutive sampling, or a random sampling? This point should be specified.

2- Statistics: Which statistical tests were used for the analysis of the results?

3- The objective was to assess the feasibility of rapid tests in a high disease burden setting. This includes the evaluation of the intrinsic values of the tests, which were assessed in this study. However the authors didn’t deal with safety conditions, which are actually important issues in developing countries. It is necessary to precise the safety conditions needed and used to perform the different rapid assays.

Results:

4- Line 237-244 : are these results statistically significant?

Discussion:

5- The authors should discuss the usefulness and the limits of the different rapid methods in a developing and low resources countries: which laboratories could afford for these rapid tests regarding technology, equipment, safety issues, sample handling, etc, since one of the objectives was to assess the feasibility of implementing these tests in a high disease burden setting. Some recommendations should also appear in the conclusion and in the summary.
* Minor Essential Revisions

6- In the summary (line 51) and in the introduction (line 81), the whole expression “turn around time (TAT)” should be written.

7- Lines 70-71 : please precise the rate of MDR-TB found in new TB cases and in retreatment cases in Uganda.

Methods:
8- Line 133: Concerning the smear microscopy grading the authors should put either the reference of the CDC guidelines or the correspondence between the grades (1+, 2+, 3+, 4+) and the number of AFB.

Results:
9- Lines 212-215: it is surprising that samples tested with both LiPa and indirect BACTEC yielded to only 77% of results with indirect BACTEC. This cannot be explained by the interpretation of the authors (lines 263-268) who wrote that most interpretable results with LiPa in comparison to the culture method are due to a better sensitivity of the LiPa, since in the three other groups of samples indirect BACTEC yielded to at least 95% available results.

10- The titles of table 1 and table 2 sound to have been inverted.

* Discretionary Revisions

Methods:
11- Line 159: who provided the D29 phages (commercial, gift?)?

12- The figure 1 should be deleted as all information are in the table 3.

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

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests.