Reviewer’s report

Title: The use of microbead-based spoligotyping for Mycobacterium tuberculosis complex to evaluate the quality of the conventional method: Providing guidelines for Quality Assurance when working on membranes

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Reviewer: Ewa Augustynowicz-Kopeń

Reviewer’s report:

The spoligotyping is a very elegant method which allows the characterization of a large collection of Mtb strains. The main advantage of this technique is its repeatability between laboratories, commercially available kits and online databases. The disadvantage of spoligotyping is low discriminatory power in comparison to RFLP-IS6110 or MIRU-VNTR. However, spoligotyping seems to be useful as a first screening method in the analysis of a large collection of Mtb strains. It allows fast identification of BCG and Mtb-Beijing strains and initial grouping of strains analyzed.

A reliable epidemiological method needs good internal-quality control which is not available in case of spoligotyping so far. Authors suggest the use of microbead-based spoligotyping to verify results received by membrane based method.

The spoligotyping data of 927 strains from 11 worldwide laboratories was verified by microbead-based spoligotyping. The conclusions confirm that classical spoligotyping is a reliable method for molecular typing of Mtb. Moreover authors found that the quality of DNA is not a limiting factor in this analysis. The weakness of the classical method is that it requires a well trained personnel since the quality of data appears to be center-dependent.

This is a well written paper with interesting but expected results. The strengths of the manuscript are its clearly and concisely written English, its well-presented and straight-forward methods, a clear aim and the authors appropriate conclusions from the data presented.

I would suggest accepting this manuscript in the present form.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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