

## Management of false-positive rifampicin resistant Xpert MTB/RIF

We read the study by Jean Claude Semuto Ngabonziza and colleagues<sup>1</sup> in *The Lancet Microbe*, in which the authors identified an association between false-positive rifampicin-resistant Xpert MTB/RIF (Xpert; G4 cartridge; Cepheid, Sunnyvale, CA, USA) results and a very low bacillary load.<sup>1</sup> This association has previously been described,<sup>2-4</sup> and Xpert rifampicin-resistant results associated with a very low bacillary load were recommended to be confirmed by testing a second specimen. Ngaboninza and colleagues<sup>1</sup> suggested that these patients should be managed with a drug susceptible tuberculosis regimen until confirmatory results are available.

We did a study in Western Cape, South Africa between Jan 1, 2015, and Nov 30, 2016, describing discordance regarding rifampicin between results from Xpert (G4) and GenoType MTBDR<sub>plus</sub> lineprobe assay (Hain Lifesciences, Nehren, Germany). We found that a very low

bacillary load measured by Xpert was associated with false rifampicin resistance.<sup>5</sup> Compared with the study by Ngaboninza and colleagues,<sup>1</sup> in which a very low bacillary load was found to be present in 61% of samples tested with Xpert, we found that only 16% of all Xpert tests with rifampicin resistance had a very low bacillary load. In addition, of the 239 specimens with a very low bacillary load, only 47 (19.6%; 95% CI 15.1-25.2%) were confirmed as false rifampicin resistant by sequencing the rifampicin-resistance determining region of the *rpoB* gene.<sup>5</sup>

Therefore, we agree with Ngaboninza and colleagues that a rifampicin-resistant Xpert result associated with a very low bacillary load requires confirmation by testing another specimen. However, in our setting we would not recommend managing these patients with a drug-susceptible tuberculosis regimen because 80% of patients have rifampicin-resistant tuberculosis. Recommendations for patient management should be setting-specific and based on local evidence.

We declare no competing interests.

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