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The Use of an Automated Quantitative Polymerase Chain Reaction (Xpert MTB/RIF) to Predict the Sputum Smear Status of Tuberculosis Patients

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Abstract

Xpert MTB/RIF-generated cycle-threshold (C(T)) values have poor clinical utility as a rule-in test for smear positivity (cut-point ≤20.2; sensitivity 32.3%, specificity 97.1%) but moderately good rule-out value (cut-point >31.8; negative predictive value 80.0%). Thus, 20% of individuals with C(T) values >31.8 were erroneously ruled out as smear-negative. This group had a significantly lower sputum bacillary load relative to correctly classified smear-positive patients (C(T) ≤ 31.8; P < .001). These data inform on public health and contact tracing strategies.

Comment in

An eXpert AFB smear?

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