The Brazilian Journal of
INFECTIOUS DISEASES

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Letter to the Editor

How we can utilize the Xpert MTB/RIF assay to decide on airborne infection isolation of inpatients with tuberculosis suspicion in Brazil: a brief review of the current data

Dear Editor,

Nowadays, for prevention of tuberculosis (TB) transmission at health care facilities, the patient with a presumptive diagnosis of infectious active TB requires airborne infection isolation (AII) until three negative respiratory specimens 8–24 h apart (acid-fast bacilli strategy). However, with the current use of rapid molecular assay, Xpert MTB/RIF assay® (Xpert, Cepheid, Sunnyvale, California), an update of this recommendation is necessary. Few studies have addressed this specific issue, the majority of them performed in the United States. In a study using a decision analysis model, associated with primary data on costs and outcomes, the Xpert MTB/RIF assay to guide triage of inpatients with presumed pulmonary TB observed a cost reduction of AII by $2278 per inpatient admission.[1] Another observational cohort study with 207 inpatients demonstrated that all strategies based on Xpert resulted on reduction of AII duration when compared with AFB management.[2] In a prospective observational study, including 142 admissions, the comparison between serial sputum microscopy and a single Xpert MTB/RIF for triage of patients for AII, resulted in identical sensitivity and negative predictive value, 89% and 99%, respectively.[3] The clinical trial "ACTG A5295/TBTC 34" showed that one or two Xperts MTB/RIF assay were each significantly more sensitive and specific than three AFB smears for identifying culture positive patients.[4] In February 2015, based on an independent analysis of "ACTG A5295/TBTC 34", the US Food Drug and Administration approved the expansion the Xpert MTB/RIF assay for AII definition in the United States based on the negative predictive value of one or two specimen Xpert strategy for absence of MTB-complex on AFB smears were 99.7% and 100%, respectively.[5] To date we are not aware of specific published recommendation of Xpert-strategy for AII definition in Brazil. The data herein briefly reviewed is indicative of the approach of using one or two Xpert MTB/RIF to replace the AFB strategy for discontinuation of airborne infection isolation of patients with presumed pulmonary TB at Brazilian health care facilities.

Conflicts of interest

The author declares no conflicts of interest.

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Received 18 September 2015
Accepted 26 September 2015
Available online 25 November 2015

http://dx.doi.org/10.1016/j.bjid.2015.09.010