

## False positives in TB diagnosis lead to real negatives for HIV patients

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HIV-infected patients who are falsely diagnosed as having tuberculosis (TB) have higher rates of mortality than those who are correctly diagnosed with the disease, according to a study conducted by researchers at University of California-San Francisco and Makerere University-Kampala.

"Among HIV-infected persons with suspected TB, falsely diagnosing persons with TB by rapid testing was associated with increased mortality when compared with the group of patients who received the correct diagnosis," said study lead author Robert Blount, M.D., clinical fellow in pulmonary and critical care medicine at UCSF's School of Medicine.

The results of the study will be presented at the ATS 2010 International Conference in New Orleans, with co-authors Laurence Huang, Lucian Davis, Adithya Cattamanchi, Saskia den Boon, William Worodria and Moses Joloba also in attendance

"Tuberculosis remains a common cause of [pulmonary disease](#) worldwide," Dr. Blount said. "HIV-infected patients are particularly susceptible to TB. Diagnosis can be a challenge, because the standard test-- sputum culture—p although sensitive and specific, often takes several weeks to yield results."

Physicians and researchers have long understood that missing a positive diagnosis of tuberculosis in patients who actually have the disease can result in poor outcomes and an increase in [mortality rates](#). But the link

between mortality and false positives - diagnosing someone with tuberculosis who does not have the disease - has been less widely understood.

In this study, Dr. Blount and his colleagues evaluated the outcomes of 600 HIV-infected patients who were treated at Mulago Hospital in Kampala, Uganda, including patients who were incorrectly diagnosed with tuberculosis following rapid testing.

"Studies tend to emphasize the negative impact of missing the diagnosis of TB," Dr. Blount noted. "Our study shows that falsely diagnosing patients with TB who do not actually have TB is also associated with negative outcomes."

Dr. Blount said the poorer outcomes are likely due to the fact that patients who are misdiagnosed are treated erroneously for tuberculosis while the actual underlying condition remains untreated. Because physicians believe tuberculosis is the culprit, any search for the real underlying disease is delayed, as is proper treatment, he said.

Dr. Blount said the study's results serve to caution physicians to continue monitoring patients who have been diagnosed with tuberculosis to ensure the treatment is working, and to reassess the diagnosis if patients are not improving.

"These results remind us as clinicians that diagnostic tests are not 100 percent accurate, and that falsely diagnosing patients with a disease who do not actually have that disease can lead to negative outcomes," he said. "We must continue to re-evaluate a patient's clinical progress. If he or she is not responding as predicted to treatment for a diagnosed disease, we must entertain alternative diagnoses."

Dr. Blount also noted the results indicate a need for further refinement

of rapid diagnostic tests for tuberculosis.

"These rapid tests, however, are not always as sensitive or specific for determining if a person has TB," he said. "Further research should be focused on the development of more sensitive and specific TB diagnostic tests and the clinical impact of these new tests. Ideally, these tests should be affordable enough to be used in low-income countries, where the burden of [tuberculosis](#) is high."

Provided by American Thoracic Society

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