

# Urine LAM-ELISA poor at diagnosing TB

August 28 2009

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Urine LAM-ELISA does not appear to be useful as an independent diagnostic test for pulmonary tuberculosis (TB). A trial of the new diagnostic, described in the open access journal *BMC Infectious Diseases* found that it was only capable of identifying 50.7% of TB cases.

Klaus Reither led a team of researchers from the Ludwig-Maximilians-University of Munich, Germany, the University College London, UK, and the NIMR-Mbeya Medical Research Programme, Tanzania, who tested LAM-ELISA in 291 Tanzanian patients suspected of having TB. He said, "Only 35 out of 69 pulmonary TB cases, confirmed by smear microscopy and/or solid culture and/or liquid culture, showed at least one positive LAM-ELISA result. This 50.7% sensitivity of the LAM-ELISA was disappointingly low. The specificity of 87.8 % also fell far short of expectations".

Novel approaches are urgently needed to improve TB diagnosis and control. The LAM-ELISA detects lipoarabinomannan (LAM), a mycobacterium-specific lipopolysaccharide component of the bacilli's cell wall. In active mycobacterial disease, LAM is released into the blood and passes the renal barrier without major changes - suggesting that its detection in urine should be a reliable diagnostic indicator. Urine can be easily obtained and its collection is often more culturally accepted than the collection of sputum or blood samples.

Although this particular test did not fulfill the requirements for a stand-alone diagnostic test for pulmonary tuberculosis, the researchers speculate that it may still be of some use, "In our opinion, further

investigations are needed to elucidate if the LAM-ELISA, in this stage of development, is valuable as a supplemental tool for the diagnosis of HIV-associated TB. This seems particularly important, when taking into consideration that TB is one of the most important opportunistic infections of [HIV](#) patients and that the sensitivity of smear microscopy in immunocompromised patients is low".

More information: Low sensitivity of a [urine](#) LAM-ELISA in the diagnosis of [pulmonary tuberculosis](#); Klaus Reither, Elmar Saathoff, Jutta Jung, Lilian T Minja, Inge Kroidl, Eiman Saad, Jim F Huggett, Elias N Ntinginya, Lucas Maganga, Leonard Maboko and Michael Hoelscher; *BMC Infectious Diseases* (in press); [www.biomedcentral.com/bmcinfectdis/](http://www.biomedcentral.com/bmcinfectdis/)

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