Investigation of urine lipoarabinomannan in human immunodeficiency virus patients with or without coinfection with Tuberculosis in Iran

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ABSTRACT
Objective/background: Tuberculosis (TB) remains the leading cause of AIDS-related deaths among adults in countries with resource limitations. The emergence of the Xpert MTB/RIF rapid molecular assay and its subsequent World Health Organization endorsement in 2010 transformed the TB-diagnostic landscape. Xpert provided diagnostic accuracy that was far superior to that of the sputum-smear microscopy test previously used. The detection of mycobacterial lipoarabinomannan (LAM) antigen in urine has emerged as a potential point-of-care test for TB. LAM antigen is a lipo polysaccharide present in mycobacterial cell walls which is released from metabolically active or degenerating bacterial cells and appears to be present only in people with active TB. Urine-based testing has advantages over sputum-based testing because urine is easy to collect and store and lacks the infection control risks associated with sputum collection. A previously study reported that urinary-LAM testing is a rapid, low-cost, ante-mortem diagnosis for human immunodeficiency virus (HIV)-associated TB. The objective of this study was to investigate the levels of LAM in HIV patients referred to the Mashih Daneshvari Hospital Tehran, Iran.

Methods: Urine from 31 HIV patients without TB, 33 HIV patients with pulmonary TB, and eight HIV patients with extrapulmonary TB was analyzed for LAM using enzyme-linked immunosorbent assay kits (Mybiosource, San Diego, CA, USA).

Results: The plasma levels of LAM in pulmonary TB/HIV patients was 7.67 ± 2.3 ng/ml compared with 4.5 ± 1.6 ng/ml in extrapulmonary TB/HIV and 6.7 ± 1.2 ng/ml in HIV patients.
without TB. There was no significant difference in urine LAM levels between the three groups. Conclusion: Our results highlight the limitations of using urine LAM levels for differentiating HIV-associated TB patients in Iran.

Conflicts of interest

The authors have nothing to disclose.