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Title: Utility of quantitative analysis of urine lipoarabinomannan in the diagnosis of tuberculosis

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Body: Background Urinary lipoarabinomannan (LAM) detection is a promising approach for rapid diagnosis of active tuberculosis (TB) Objective: to assess the diagnostic accuracy of urine lipoarabinomannan (LAM) among tuberculous-infected patients either pulmonary or extra pulmonary. Methods This study was carried out on 85cases (46 male and 39 female) with active tubercular infection divided into three groups; Pulmonary (n=40), Extrapulmonary (n=30) and Disseminated tuberculosis (n=15) .Ten normal individual were included as control group. LAM level was measured in urine by enzyme- linked immunosorbant assay (ELISA). Results: The LAM antigen bind to Anti-LAM antibody from the urine in 69 out of 85 cases of active pulmonary and extra pulmonary TB. Patients with disseminated disease had a higher urine LAM level (1.75 ± 1.65 ng/ml) than that for patients with pulmonary (0.58 ± 0.53 ng/ml) or extra pulmonary TB (0.17 ± 0.11 ng/ml) ($P<0.001$). Patients with smear positive specimens had a higher urine LAM level (0.63 ± 0.54 ng/ml) than that of smear negative (0.040 ± 0.06 ng/ml) ($P<0.001$). Quantitative urine LAM test results positively correlate with degree of bacillary burden in patients with microbiologically confirmed TB, it was higher in high inoculums specimens (0.84 ± 0.49 ng/ml). Conclusion: Urine LAM test is rapid and reliable diagnostic modality for pulmonary or extra pulmonary TB.