

## **Diagnostic value of pcr compared to urine culture for urinary tuberculosis in adult women: An evidende-based case report**

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### **Abstrak**

Background: genitourinary tuberculosis (GUTB) refers to a *Mycobacterium tuberculosis* infection of the urinary tract with clinical manifestation masquerading as various urological diagnostic entities. With an incidence rate of 192-232 per 100,000 individuals, current diagnoses have fallen short in comparison to the total incidence. Combined with an atypical and non-specific manifestation, a high false negative rate of acid-fast bacilli (AFB) staining, and long AFB culture duration has made diagnosis difficult. We aim to gather current available evidence regarding the diagnostic performance of polymerase chain reaction (PCR) in the diagnosis of GUTB. Methods: a literature search was conducted in four different, well-known databases using a predetermined PICO, keywords, and Boolean operators. All included articles will be subjected to rigorous appraisal according the University of Oxford's Centre for Evidence-Based Medicine (CEBM) Diagnostic Variability Criteria. Review and meta-analysis will be subjected to the QFAITH appraisal checklist to assess its quality. Results: out of a total of 243 initial search results, 11 relevant studies were determined after title and abstract screening. Additionally, nine articles were excluded based on the predetermined criteria. Two fully appraised articles were included in the study: one systematic review article, revealing a heterogenous ( $I^2 = \text{unstated}$ ;  $p = \text{unstated}$ ) result of sensitivity mean above 85% and specificity above 75%; and one cross-sectional diagnostic study that reported the use of two different PCR primers: IS6110-PCR and 16SrRNA-PCR primer with a sensitivity of 95.99% and 87.05% and specificity of 98.11% and 98.9%, respectively. Conclusion: current limited evidence showed that PCR could not be solely used for the diagnosis of GUTB, but its use is recommended to guide patient treatment and monitoring.