

## **To Evaluate the Current Role of DNA PCR in the Early Diagnosis of Genitourinary Tuberculosis: The New Gold Standard for Diagnosis**

**Introduction and Objectives:** To evaluate the role of Polymerase chain reaction (PCR) in the early diagnosis of genitourinary tuberculosis (GUTB) and to compare its sensitivity and specificity with conventional methods and remove the MYTH that PCR for tuberculosis is not a good test..

**Materials and Methods:** The study was carried out from January 2005 to August 2011 in 256 patients with a clinical suspicion of GUTB. Their clinical features and investigation results were evaluated. Early morning sample of urine or semen or pus were sent for five consecutive days with maintenance of cold temperature. Diagnosis of GUTB was made on the basis of positive AFB staining/AFB culture/PCR and improvement in symptoms and pyuria after starting anti tubercular treatment (ATT). The diagnostic yield of urinary PCR for mycobacterium tuberculosis and its sensitivity and specificity in comparison with routine urine AFB staining and culture were assessed.

**Results:** There were 130 males and 126 female patients, with a mean age of 40.6 years. In our study irritative voiding symptoms were present in - 80% patients and hematuria in -14 %. About 37% patients had recurrent UTI. Constitutional symptoms like fever were present in -19%. Out of 256 these 216 patients, were found to have GUTB on the basis of positive PCR/ positive AFB culture/staining and improvement in symptoms and pyuria after starting anti tubercular treatment. Mycobacterium tuberculosis was grown on culture in 74 patients and of these 51 patients MTb complex and in 23 patients mycobacterium other than tuberculosis (MOTT) was isolated. DNA PCR was positive in 193 of 256 clinically suspected cases. Sensitivity of PCR in our study was 89% and specificity was 88%. Sensitivity of AFB staining was 9% and culture was 35%.

**Conclusion:** From this study it is evident that PCR is rapid, sensitive and specific diagnostic method, which avoids delay in starting treatment and should be done in all patients with clinical suspicion of GUTB. AFB urine culture has been wrongly labeled as gold standard test for decades. Is it 100% positive in all? We all know that and still it was labeled as the gold standard. It is time for a new gold standard.