Title: Clinical utility of PCR in the diagnosis and management of latent tubercular endometritis
Objective: It is estimated that 5% of females presenting themselves in infertility clinics worldwide are affected with genital tuberculosis. Genital tuberculosis remains undiagnosed and untreated. PCR test has been reported to have a high sensitivity but low specificity varying from 60-70%. Our aim was to evaluate the PCR (utilizing the target IS6110) in enhancing the diagnostic certainty for genital latent tuberculosis bacillus infection (LTBI) and the reproductive outcomes in women treated with antituberculosis therapy.

Design: Retrospective review of patients with either primary or secondary unexplained infertility or recurrent IVF failure.

Materials and Methods: The records of 500 patients were reviewed. Of these 200 were recurrent aborters and 300 had ART failures. The age of the patients varied from 21-47yrs, with an average age of 34yrs. 41% (124/300) amongst the ART failures and 43% (86/200) of the recurrent aborters group had a positive PCR. 138/500 had a positive history of tuberculosis, inclusive of primary complex in 16, 44 had pulmonary tuberculosis, 26 had abdominal, 14 had tubercular lymphadenitis and 38 had tubal tuberculosis.

Results: PCR was positive in maximum number of cases (42%; 210/500). The next best predictors were immunology (ELISA for IgM and IgG, 24.5%) and the last, Culture (BACTEC culture, 17.6%). PCR was negative in 6/7 cases that were positive on Ziehl Nielsen staining and 14/88 where culture was positive. This was attributed to the process of DNA extraction and amplification. A combination of positive PCR with two or more suspicious/definitive indicators was an indication for starting antitubercular treatment. All patients with either PCR or Ziehl Nielsen staining or with culture positive (n=230) were put on standard World Health Organization regimen for 6months. The follow up of these patients and their response to treatment was by PCR retesting every 3 months. The clinical pregnancy rate and the live birth rate in the treated group were 56% and 39% respectively. Spontaneous pregnancy was achieved in 27%, 12% conceived with IUI and 27% had pregnancy achieved with IVF/ICSI.

Conclusions: PCR is a rapid test; a positive test provides feedback indicating a high likelihood of latent genital tuberculosis in combination with other positive tests or with an index of high clinical suspicion. PCR technology should be utilized as a diagnostic tool for monitoring response to therapeutic interventions in women with latent genital tuberculosis.
Support: None