Title: Utility of Quantiferon gold test to corroborate the diagnosis of latent tubercular endometritis
Objective: PCR test for latent tuberculosis is a highly sensitive test, but can give high false positive results. It is therefore still not considered the gold standard for diagnosing tuberculosis and additional evidence is required to confirm the diagnosis. QFT-G is a type of INF-gamma release assay conducted on sensitized white cells after whole blood is incubated with antigens. Our study objective was to examine the two tests: PCR and QFT-G in combination to establish the diagnosis of tubercular endometritis in cases of infertility.

Design: Prospective study

Materials and Methods: All patients enrolled for IVF had an endometrial biopsy for PCR and culture on the 1st or 2nd day of cycle as a routine protocol to rule out genital tuberculosis. 100 patients who were PCR positive for mycobacterium tuberculosis were selected for further testing with Quantiferon Gold with a positive test reported at levels more than 0.35 IU/mL. All patients were put on antitubercular treatment (ATT) and monitored for therapy with QFT-G every 3 months followed by repeat endometrial biopsy for PCR when QFT-G became negative (< 0.35 IU/ml). The nested PCR standardized for amplifying the MPB-64 mycobacterial sequence was used in the study.

Results: Amongst the patients selected for the study 68% had primary infertility and 32% secondary infertility. Quantiferon gold was found to be positive in 88% of the cases and the value varied from 0.5 to 22 (IU/ml). Out of 12 patients who were PCR positive (+ve) but QFT G negative (-ve), 10 patients (83%), became PCR-ve at 3 months of ATT treatment and the rest 2 patients (17%) had -ve PCR at 6 months of ATT. 88 patients who were both PCR and QFT- G +ve were put on ATT and followed up with 3 monthly QFT G assay. Out of these 6 patients (6.8%) showed a rise in QFT G levels. In 4 patients (4.5%) levels remained static even after 6 months of ATT. Repeat PCR in all these 10 patients at 6 months of therapy was found to be +ve . 78 patients (88.63%) who were both PCR and QFT-G +ve initially showed consistently decreasing levels of QFT-G assay on ATT requiring from 3 to 18 months for QFT-G assay to reach below the cut off value of 0.35 IU/ml.

Conclusions: Quantiferon Gold is a good corroborative test which can be combined with PCR in the diagnosis and monitoring of therapeutic response to ATT in women with latent genital tuberculosis. A negative QFT-G test is predictive of response to ATT therapy.