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EVALUATION OF INTERFERON GAMMA RELEASE ASSAY AS A CLINICAL TOOL FOR MONITORING AND EVALUATION OF ANTI-TUBERCULOSIS CHEMOTHERAPY

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Introduction: Tuberculosis (TB) is a leading cause of death and became one of the biggest threats to the world. Improvement of its treatment strategies and possibly to reduce drug resistance monitoring and evaluations (M&E) of chemotherapeutic responses are necessary.

Objective: To evaluate interferon gamma release assay (IGRA) as a tool for M&E of the efficacy of chemotherapeutic intervention of active TB.

Methods: Institutional based prospective longitudinal cohort study design was used. Patients positive for acid fast bacilli stain (AFB), culture and/or GeneXpert MTB/RIF assay were recruited for the study. IGRA was used to evaluate IFN- response to treatment.

Results: The recruited 21 patients had the mean age of 35.5, median 33 and range was 23-56 years. All patients were cured

after the treatment. The mean of the concentration (IU) of IFN- γ response showed decreasing trends from baseline (mean+SD, 2.09+1.09) to the end of the treatment (mean+SD, 0.23+0.20). The patients' individual baseline IFN- γ concentration had differences and being similar at the end of their treatment. Repeated IFN-responses had been evaluated for associations between each measurements and showed statistical significance only between two pairs ($P < 0.001$). In this study, IFN- response to tuberculosis chemotherapeutic intervention was not affected by any of the socio-demographic factors of the study participants ($P > 0.05$).

Conclusions: The decreasing trend in IFN- response following successful anti-TB may have a value as a tool for M&E of the efficacy of chemotherapeutic intervention for active TB.

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