Title: Efficacy of IP-10 as a biomarker for monitoring tuberculosis therapy

Body: Objective: The objective of this study was to evaluate serum IP-10 and TB antigen dependent IP-10 secretion as biomarkers for monitoring TB treatment. Methods: Thirty-two patients with active tuberculosis were enrolled and the patients were classified into two groups by the presence of cavity or positive sputum culture after two months of anti TB treatment. In this exploratory study, we assessed the changes in serum IP-10, TB antigen dependent IP-10 and IFN-γ response to QFT-GIT antigens at the time of diagnosis and after treatment completion. Results: Significant changes between at the time of TB diagnosis and at therapy completion were observed in the serum IP-10 (P<0.001, median: 140.4 pg/ml, 105.7 pg/ml) and TB antigen dependent IP-10 (P<0.001, median: 869.7 pg/ml, 815.0 pg/ml). The proportion of TB antigen dependent IP-10 responders did not significantly change between baseline and therapy completion (P=0.180), whereas the proportion of serum IP-10 responders significantly changed (P=0.008). The reversion rate is prominent in low risk group than the moderate/high risk group. The majority of patients didn’t exhibit QFT-GIT reversion. Conclusions: Serum IP-10 and IP-10 response to QFT-GIT antigen might be a useful biomarker for monitoring therapy efficacy in patients with active TB. Further studies in larger cohorts are needed to confirm the consistency of this result and identify the appropriate cutoffs.