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Title: Screening for latent TB using antigen-specific IP-10 response and the effect of prednisolon

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Body: Background: IGRAs are recommended tests in the screening for latent tuberculosis infection in patients with autoimmune diseases before anti-TNF-α treatment. The aim of this study was to evaluate the performance of IP-10 as an alternative biomarker to IFN-γ. Method: Blood samples from 79 patients with Rheumatoid Arthritis and 63 patients with Inflammatory Bowel Diseases were stimulated using the QFT-IT tubes. IFN-γ and IP-10 were measured in the supernatant with ELISA. Results: Overall the performance of IP-10 was comparable to IFN-γ (agreement 138/142, (96.5%) kappa 0.80) with high levels of IP-10. QFT-IT and IP-10 test results were positive in 3(2.3%) and 4 (3.2%) patients respectively reflecting the low TB incidence in Denmark. Prednisolone treated patients had significantly more indeterminate QFT and IP-10 test results: 28%(10/36) and 22% (8/36) compared to patients receiving other DMARDs 2%(2/106) and 0% (0/106) respectively. This effect was dose dependent for both tests (p=0.0001 test for trend) Similarly, the median IFN-γ and IP-10 responses to mitogen were reduced in prednisolone treated patients (2.81 (IQR 0.05->10) and 7.8ng/ml (IQR 2.2-16.7) respectively) compared to patients receiving other DMARDs (>10.0IU/ml (IQR 8.43->10.0) and 20.9 (14.5-25.8ng/ml) (p<0.0001))respectively. Conclusion: This is the first study to investigate the influence of prednisolone treatment on IP-10 responses; IP-10 was equally affected by prednisolone and the study was too small to determine the value of a combined biomarker approach. IP-10 can be stored on filter paper bypassing centrifugation, freezer and cold chain which gives an IP-10 based test an advantage to the current IFN-γ based test.