

PA-063 ANALYSING THE TREND OF BIOMARKERS WITH TB TREATMENT IN TUBERCULOSIS DISEASE SUSPECTS

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10.1136/bmjgh-2016-000260.96

Background The search for biomarkers of pulmonary tuberculosis (PTB) disease, infection, treatment progress among others is especially due to lack of suitable tests for diagnosis or differentiation of active PTB disease and mere latent TB infection. The existing methods have, among others, poor sensitivity, long

turnaround time, high cost and the need for skilled personnel and infrastructure. Therefore, this study analysed 27 analytes (previously identified as promising) in TB research for their trend during TB treatment among PTB disease suspects in Mulago Hospital in Kampala, Uganda.

Methods This study used plasma samples from 76 TB suspects enrolled as part of a bigger longitudinal African-European TB Consortium (AETBC) study funded by the EDCTP within Kampala, Uganda. 71% were males, average age was 32 ± 10 , 14% were HIV-infected. PTB was confirmed by MGIT (mycobacteria growth indicator tube) and speciated for MTB complex. Subjects were followed at month 2 and 6 of treatment. The 27 analytes: (IL-1b,1ra, 2, 4, 5, 6, 7, 8, 9, 10,12p70,13,15,17A, eotaxin, Basic FGF,G-CSF, GM-CSF, IFNg,IP10, MCP-1, MIP-1a,b, PDGF-BB, RANTES, TNF-a, VEGF) were analysed using Luminex. Of the TB suspects, 38 had confirmed MTB by MGIT. The 38 TB suspects, used as controls, had X-ray results ranging from normal to consistent with TB.

Results Levels of 14 of the analytes most notably MIP-1a, b, IP-10, RANTES, IL-8, IL-12p70, IL-17A and VEGF significantly reduced throughout treatment. Notably, levels of IFNg, IL-12p70, 4,6,IP10, and VEGF significantly reduced by month of treatment. Combinations of IP10, RANTES, MIP-1b and VEGF also showed promising abilities in identifying treatment success with an interesting trend appearing in suspects with non-TB chest infections and with HIV–TB co-infection.

Conclusions The above markers have promising abilities for PTB diagnosis and identification of possible relapse or treatment failures.