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Title: Are there any similarities between the skin and the blood tests with CFP10-ESAT6 in tuberculosis patients?

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Body: Background: Some new TB patients can have negative results with specific antigens tests. We estimated a skin test with a recombinant protein combination of CFP10-ESAT6 and evaluated blood levels of IFN-g, TNF-a, IL-2 in ELISA after induction with CFP10-ESAT6-TB7.7 antigens in TB patients blood. Methods: 36 new TB patients enrolled (mean 32,7 years old), 16 (44%) had destruction in lung tissue, 16 (44%) had more than 2 lung segments involved, 7 (19,4%) were Drug Resistant-TB (MBT+DR+), 13 (36,1%) - sputum positive without DR (MBT+DR-) and 16 (44,4%) – sputum negative (MBT-). In 7 (19,4%) patients negative skin test result was obtained – no reaction after 72h of intradermal injection. IFN-g, TNF-a, IL-2 were evaluated in ELISA after 24h incubation with ESAT-6-CFP-10-TB7.7. T cells subpopulations in peripheral blood were estimated by flow cytometry analysis. Results: Of 7 TB patients with negative skin test 5 had destruction in lung tissue, 3 had more than 2 lung segments involved, 3 were sputum positive, 1 had resistance to S,H. There were no significant differences in groups. We received no differences in T cells subpopulations in positive and negative skin test patients. Patients with negative skin test had statistically lower levels of IFN-g ($10,2 \pm 6,02$ vs $114,3 \pm 27,4$ in positive; Mann-Whitney Test $p=0,029$), TNF-a ($0,89 \pm 0,9$ vs $316,3 \pm 115,0$; Mann-Whitney Test $p=0,006$), IL-2 ($13,9 \pm 9,1$ vs $164,5 \pm 40,6$; Mann-Whitney Test $p=0,017$). Conclusion: We obtained significant correlation between negative skin results with the recombinant protein combination of CFP10-ESAT6 and low levels of IFN-g, TNF-a, IL-2 in blood after the induction with similar antigens in ELISA.