

**COMPARISON BETWEEN THE STANDARD TUBERCULIN SKIN TESTING AND AN
ENZYME LINKED IMMUNOSPOT ASSAY (ELISPOT) FOR THE DIAGNOSIS OF
TUBERCULOSIS INFECTION IN RHEUMATIC PATIENTS TREATED WITH TUMOR
NECROSIS FACTOR ANTAGONISTS**

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Purpose of the study: To compare the tuberculin skin test (TST) with an enzyme-linked immunospot interferon- γ (IFN- γ) release assay (ELISPOT, T SPOT TB) for the diagnosis of latent *Mycobacterium tuberculosis* (MTb) infection (LTBI) in rheumatic disease patients starting treatment with anti-tumor necrosis factor (TNF) agents. Treatment with anti-TNF antagonists in these patients has been associated with increased rates of tuberculosis due to LTBI reactivation. LTBI is currently being diagnosed with the TST which has certain limitations.

Methods: Seventy consecutive patients with various rheumatic diseases were included in the study. All patients underwent a standard initial evaluation for LTBI including clinical examination, chest X-ray and TST. Freshly isolated peripheral blood mononuclear cells (PBMCs) were stimulated *ex vivo* with MTb specific antigens and the number of IFN- γ producing cells were counted (ELISPOT assay).

Results: Twenty seven patients (38.6%) were TST+ and 16 were ELISPOT+ (22.8%). The overall level of agreement between the two tests was 72.8%, being much higher in TST- (39/43, 90.7%) than TST+ (12/27, 44.4%) patients. Discordant results were observed in 19 patients (27.1%). Among TST- patients (n=43), four (9.3%) patients were ELISPOT+; we also identified 15 ELISPOT- patients among 27 TST+ patients (55.5%); the majority of whom (66.7%) had been BCG vaccinated.

Conclusion: The ELISPOT assay is a useful test for better diagnosis of LTBI in rheumatic patients scheduled for anti-TNF therapy and the identification of patients with false positive TST results due to previous BCG vaccination.