LTT (Lymphozyten-Proliferationstest, „Lymphozyten-Transformationstest“)

Interferon Gamma Test, ELISpot (T-Cell Spot), dem Lymphozytentransformationstest

bei Borreliose und bei anderen Infektionskrankheiten

Im **Lymphozyten-Proliferationstest**, auch **Lymphozyten-Transformationstest genannt (LTT)**, wird die **Proliferationskapazität von Lymphozyten** dargestellt. Der Test dient der Bewertung des Immunstatus oder der Diagnose einer speziellen Sensibilisierung.

In the **Lymphocyte proliferation assay**, also **known as lymphocyte transformation test (LTT)**, the **proliferation capacity of lymphocytes** is shown. The test is used to evaluate the immune status or the diagnosis of specific sensitization of an object.

Im **Interferon Gamma Test, dem ELISPOT (Enzyme-Linked ImmunoSpot)**, auch T-Cellspot genannt, wird durch die **Bestimmung der Zytokin – Produktion** die **Quantität und die Qualität einer T – Zell - Immunantwort zeitnah** dokumentiert.

In the **Interferone Gamma Test, ELISPOT (Enzyme-Linked ImmunoSpot)**, also called T-Cell spot, represented by the determination of cytokine – Production, the **quantity and quality of T - cell - immune response in a timely manner** is documented.

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„**Qualitätssicherung beim Lymphozytentransformationstest“ – Addendum zum LTT-Papier der RKI-Kommission „Methoden und Qualitätssicherung in der U mweltmedizin**“ Mitteilung der Kommission „Methoden und Qualitätssicherung in der Umweltmedizin“Bundesgesundheitsbl - Gesundheitsforsch - Gesundheitsschutz 2008 · 51:1070–1076 DOI 10.1007/s00103-008-0641-3 Online publiziert: 7. September 2008 © Springer Medizin Verlag 2008
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„Borrelia-specific antibodies are not detectable until several weeks after infection and even if they are present, they are no proof of an active infection. Since the sensitivity of culture and PCR for the diagnosis or exclusion of borreliosis is too low, a method is required that detects an active Borrelia infection as early as possible. For this purpose, a lymphocyte transformation test (LTT) using lysate antigens of Borrelia burgdorferi sensu stricto, Borrelia afzelii and Borrelia garinii and recombinant OspC was developed and validated through investigations of seronegative and seropositive healthy individuals as well as of seropositive patients with clinically manifested borreliosis. The sensitivity of the LTT in clinical borreliosis before antibiotic treatment was determined as 89,4% while the specificity was 98,7%. In 1480 patients with clinically suspected borreliosis, results from serology and LTT were comparable in 79.8% of cases. 18% were serologically positive and LTT-negative. These were mainly patients with borreliosis after antibiotic therapy. 2.2% showed a negative serology and a positive LTT result. Half of them had an early erythema migrans. Following antibiotic treatment, the LTT became negative or borderline in patients with early manifestations of borreliosis, whereas in patients with late symptoms, it showed a regression while still remaining positive. Therefore, we propose the follow-up monitoring of dis-seminated Borrelia infections as the main indication for the Borrelia-LTT.“

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„ABSTRACT This letter is a comment on a study using lymphocyte transformation test (LTT) for diagnosis of active Lyme borreliosis caused by Borrelia burgdorferi sensu lato [1]. This LTT study reports the findings derived from a validation panel containing 120 blood donors seronegative for Borrelia, 40 seronegative patients with autoimmune diseases, 48 healthy seropositive controls and 94 seropositive patients with clinical signs of Lyme borreliosis. Furthermore, 1480 samples were investigated with both serology (Borrelia IgG and IgM ELISA and Western blot, Mikrogen, Munich Germany) and LTT.“
„The development of a biomarker for active infection with B. burgdorferi sensu lato would be of clinical value, as antibody detection cannot currently distinguish active infection from immunological memory

resulting from past or asymptomatic infection. However, T-cell recognition may be inherently indiscriminate, and problems with specificity may therefore be hard to avoid. A recent Swedish study" [here no citation] "did not find the ELISPOT technique to be useful for supplementary clinical diagnosis, with a specificity of just 82%.... In conclusion, the clinical value of the LTT for the diagnosis of active Lyme borreliosis was not supported the von Baehr et al. Study [1]"

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