

Serology in toxoplasmosis diagnosis in patients with AIDS

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Serological parameters usually are considered little indicative for the diagnosis of acute toxoplasmosis in patients with AIDS. Nevertheless, if data of long-term surveillance studies are analysed, some regularities in the antibody formation of AIDS-patients with latent and with acute *Toxoplasma gondii* infections can be detected. In a period of 15 month we have screened more than 3000 samples, mostly sera and cerebrospinal fluids, of 748 HIV infected persons for IgG, IgM, IgA antibodies and circulating antigen specific for *Toxoplasma gondii* by ELISA techniques. Moreover, we tested some samples for parasite appearance by a direct fluorescent assay and by PCR. During this time we noted an incidence of acute toxoplasmosis (primary infections; CNS-, and pulmonary infections due to reactivations) of about 8 %. All patients with acute toxoplasmosis were treated immediately and serological long term follow up data are available from most of them. About 56 % of the HIV-infected persons were found to be infected with the parasite.

A retrospective analysis of our serological results showed that specific IgG antibodies were present in the sera of all patients with acute infections, usually in moderate or even in high titres. The titres of specific IgG antibodies increased after the onset of symptoms reaching a peak after about 50 days. Specific IgM antibodies seem to be present in sera of patients with a primary infection only; but, this type of infection was almost exclusively restricted to persons with a relative high CD4 T-cell count receiving treatment in an outpatient manner. Specific IgA antibodies were detected in about 50% of the acute infections, usually only in borderline titres. Circulating antigen was present in only a small number of samples, nevertheless, its detection seems to have a very high positive predictive value.

To sum up we believe that the titration of specific antibodies and the detection of circulating antigen are reliable tools for a rapid (differential-)diagnosis of an acute infection especially in cases with a knowledge of the previous toxoplasmosis status of the patient. Thus, the effort of a regular toxoplasmosis screening of HIV infected persons and the monitoring of their titre trends may save costs as well as lives at the time of reactivation.