

Detection of Toxoplasma Parasitemia by PCR: Does it correlate with IgG and IgM Antibody Titers?

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ABSTRACT

Background: Toxoplasmosis is a zoonotic disease with high seroprevalence worldwide. Several immunological methods have been described for diagnosis of toxoplasmosis. **Objective:** To determine the parasitemia period in patients infected with toxoplasma using PCR and comparing serological data with molecular results. **Methods:** In this study 154 serum samples from patients with toxoplasmosis were examined. Presence of parasite DNA was evaluated using PCR method. IgG and IgM antibody titers were measured using IFA test. **Results:** Of 154 studied samples, 28 were positive for IgM and 60 were positive for IgG with titers higher than 1/400. PCR was performed on those samples having either IgG or IgM titers. Samples with IgM titers lower than 1/800 and higher than 1/3200 had no detectable level of parasite DNA. Parasitemia was detected in cases with IgG titer of 1/100 to 1/200. All samples with no detectable IgM and with IgG titers higher than 1/400 were negative when tested by PCR. **Conclusion:** IgM specific antibody titer between 1/800 and 1/3200 represents a window opportunity in treatment of patients with toxoplasmosis. Absence of parasite's DNA in patient with higher IgM antibody titer is explained by the effector mechanism of antibody for clearance of the parasite.

Keywords: Toxoplasmosis, Parasitemia

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