

Detection of *Toxoplasma gondii* antibody in epileptic patients in Mosul city

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ABSTRACT

Epilepsy is a relatively common neurological disease characterised by involvement of certain parasites forming cysts in brain tissue, including *Toxoplasma gondii*. Objectives: To assess the prevalence of *Toxoplasma gondii* antibodies among patients with epilepsy and healthy controls and evaluate its potential association with epilepsy. A case-control study included 90 newly diagnosed patients with unprovoked convulsive epilepsy of unknown aetiology and 90 healthy individuals without neurological disorders. Serum samples were tested for anti-*Toxoplasma gondii* IgM and IgG antibodies using commercially available ELISA kits. Among epilepsy patients, 13 (14.4%) were IgM-positive, and 42 (46.6%) were IgG-positive, compared with 9 (10%) IgM-positive and 36 (40%) IgG-positive controls ($p>0.05$), while contact with cats was significantly associated with epilepsy ($p=0.038$). The rate of exposure to *Toxoplasma gondii* is slightly higher among epilepsy patients, with a relationship between cat contact and epilepsy reflecting the potential role of environmental exposure. However, seropositivity alone does not appear to be a determining factor in epilepsy development.

Keywords: *Epilepsy, IgM antibodies, IgG antibodies, Seropositivity, Toxoplasma gondii.*

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