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L0018 Sero-molecular detection, multi-locus genotyping, and clinical manifestations of ocular toxoplasmosis in patients in northwest Iran

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Background: Our goal was to use molecular techniques to verify and characterise clinical diagnoses of ocular toxoplasmosis. Clinical cases were evaluated against IgM and IgG Toxoplasma antibodies, and IgG avidity was tested. B1 gene was assessed for molecular detection, and multi-locus genotyping were conducted to type Toxoplasma infections.

Materials/methods: A cross-sectional study was conducted in 33 patients with suspected active ocular toxoplasmosis. Patients were examined by an ophthalmologist and clinical manifestations were recorded. *Toxoplasma gondii* IgG and IgM from serum samples were analysed by chemiluminescence immunoassay and ELISA. Acute vs chronic infection was evaluated by IgG avidity testing. Molecular diagnosis of *T.gondii* infection targeted the B1 gene, and the *T.gondii* genotype was determined by amplification of the GRA6, SAG2, SAG3, BTUB and APICO loci. The correlation of age, gender, occupation, education, contact with cats or soil, and the consumption of undercooked meat with the incidence of ocular toxoplasmosis was evaluated.

Results: Twenty-eight patients (84.8%) were seropositive, two (6%) were both IgG and IgM positive, while one (3%) showed IgG avidity <40%. Molecular testing confirmed toxoplasmosis in 27 patients (81.8%). Chorioretinal scarring (p=0.014) and posterior uveitis (p=0.004) was significantly associated with ocular toxoplasmosis patients. Multi-locus genotyping showed genotype I. Ocular toxoplasmosis showed no significant correlation with gender, age, behavior's, occupation or education.

Conclusions: Clinical manifestations, serological and molecular detection of Toxoplasma were highly correlated in the diagnosis of ocular toxoplasmosis. Genotype I was predominant in ocular toxoplasmosis in northwest Iran. A larger comparative study should be conducted to provide a broader view of the molecular epidemiology of *T.gondii* genotypes and its role in toxoplasmosis.