

O0365 **Genetic characterization of *Toxoplasma gondii* DNA samples isolated from humans living in North America: an unexpected high prevalence of atypical genotypes**

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**Background:** Whereas in Europe most of *Toxoplasma gondii* genotypes belong to the type II lineage, in South America, type II is rare and atypical strains predominate. In North America, data on *T. gondii* genotypes in humans are scarce.

**Materials/methods:** In this study, 67 *T. gondii* DNA samples from patients diagnosed with toxoplasmosis in the United States were available for genotyping. The discriminant analysis of principal components (DAPC) was used to infer each atypical genotype to a geographic area where patients were likely infected. Associations between genotype, clinical manifestations, immune status, and geographic region, were also estimated.

**Results:** Forty-one DNA samples out of 67 were successfully genotyped: 18 (43.9%) and 5 (12.2%) were characterized as types II and III, respectively. The remaining 18 genotypes (43.9%) were atypical and were assigned to a geographic area. Ten genotypes originated from Latin America, 7 from North America and one from Asia (China).

**Conclusions:** In North America, unlike Europe, *T. gondii* atypical genotypes are common in humans and unlike South America, type II strains are still present with significant frequency. Clinicians should be aware that atypical strains are common in North America and have been associated with severe ocular and systemic disease and unusual presentations of toxoplasmosis in immunocompetent patients.