



A Single-Institute Study of the Association between *Toxoplasma gondii* Infection and Bipolar Disorder

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SUMMARY. Bipolar disorder is a severe neuropsychiatric illness. Numerous studies have demonstrated that bipolar individuals have a higher seroprevalence of *Toxoplasma gondii*. Our study aimed to determine the seroprevalence of *T. gondii* in bipolar patients at a single institute in Zagazig, Egypt, and compare them to healthy controls. A case-control study included 100 participants, 50 healthy controls and 50 patients with bipolar disorder. Diagnosis of bipolar disorder was made clinically using the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV-TR) criteria. Levels of anti-toxoplasma antibodies IgG & IgM were measured using the commercially available (ECLIA) kit "Toxoplasma IgG & IgM (Creative Biolabs Invitro Diagnostics, Shirley, New York 11967, United States of America). Anti-*Toxoplasma gondii* IgG antibodies were detected in 22 (44%) of 50 bipolar patients and 30 (60%) of 50 controls. *T. gondii* infection seroprevalence did not significantly differ between cases and controls ($p = 0.109$). There were no statistically significant differences in the prevalence of seropositivity for anti-*T. gondii* IgG antibodies between different types of bipolar episodes ($p = 0.562$). Our findings suggest that seropositivity to *T. gondii* is not associated with bipolar illness in general. To fully comprehend the effect of *T. gondii* infection on bipolar illness, additional research is needed.

RESUMEN. El trastorno bipolar es una enfermedad neuropsiquiátrica grave. Numerosos estudios han demostrado que los individuos bipolares tienen una mayor seroprevalencia de *Toxoplasma gondii*. Nuestro estudio tuvo como objetivo determinar la seroprevalencia de *T. gondii* en pacientes bipolares en un solo instituto en Zagazig, Egipto, y compararlos con controles sanos. Un estudio de casos y controles incluyó 100 participantes, 50 controles sanos y 50 pacientes con trastorno bipolar. El diagnóstico de trastorno bipolar se realizó clínicamente utilizando los criterios del Manual Diagnóstico y Estadístico de los Trastornos Mentales, Cuarta Edición (DSM-IV-TR). IgM (Creative Biolabs Invitro Diagnostics, Shirley, Nueva York 11967, Estados Unidos de América) Se detectaron anticuerpos IgG anti-*Toxoplasma gondii* en 22 (44%) de 50 pacientes bipolares y 30 (60%) de 50 controles. La seroprevalencia de infección con *T. gondii* no difirió significativamente entre casos y controles ($p = 0,109$). No hubo diferencias estadísticamente significativas en la prevalencia de seropositividad para anticuerpos IgG anti-*T. gondii* entre diferentes tipos de episodios bipolares ($p = 0,562$). Nuestros hallazgos sugieren que la seropositividad a *T. gondii* no está asociada con la enfermedad bipolar en general. Para comprender completamente el efecto de la infección por *T. gondii* en la enfermedad bipolar se necesita investigación adicional.

KEY WORDS: bipolar disorder, case-control study, Egypt, seroprevalence, *Toxoplasma gondii*.

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