Hematology-2013
OMICS Group Conferences
Accelerating Scientific Discovery
International Conference on
Hematology & Blood Disorders
September 23-25, 2013 Raleigh, USA

Prevalence of risk factors for and oxidative stress associated with *Toxoplasma gondii* antibodies among Egyptian asymptomatic blood donors

Nashwa K. Abousamra
Mansoura University, Egypt

Abstract

Background: Since existing therapies are not fully effective, and no Toxoplasma gondii vaccine is available, efforts to reduce toxoplasmosis transmission are crucial to reducing the impact of this disease.

Objectives: To evaluate the seroprevalence of, risk factors for, and oxidative stress associated with T. gondii antibodies in asymptomatic blood donors in northeastern Egypt in a cross-sectional study.

Methods: Blood donors (169 men and 61women) seen at blood banks, Mansoura University Teaching Hospital, Egypt were interviewed about sociodemographic characteristics and potential risk factors for T. gondii infection using a structured questionnaire. A venous blood sample was taken to document their T. gondii antibody status using enzyme-linked immunosorbent assay (ELISA). Also, serum level of malondialdehyde (MDA) and activity of glutathione peroxidase (GSH-Px) and tocopherol fractions (α, γ, δ) was assessed.

Results: Overall, 155 (67.4%) of blood donors were positive for anti-T. gondii IgG antibodies and 24 (10.4%) of them were also positive for anti-T. gondii IgG avidity antibodies, which is high compared to many countries. Univariate logistic regression analysis showed an association between *T. gondii* seropositivity and area of residence, blood type, older ages, level of education, history of immune weakness, contact with cats, professional contact with farm animals, agricultural activities, washing hands before meals, eating unwashed vegetables, drinking raw milk, eating cheese made from raw milk, eating luncheon or shawerma. In a multivariate logistic regression analysis, eating luncheon or shawerma (adjusted odds ratio [OR] 80.82 [95% CI 18.62–350.81], P <0.0001) and being non-educated (adjusted OR 32.25 [95% CI 7.46–139.44], P <0.0001) showed a strong significant association with *T. gondii* antibodies. *T. gondii*-seropositive blood donors had significantly (P < 0.001) higher MDA level paralleled with significant decrease in the level of GSH-Px (P <0.0188) and tocopherol fractions (P < 0.001) compared with *T. gondii* negative blood donors.

Conclusion: This study highlights that *T. gondii* is prevalent among healthy blood donors in northeastern Egypt, and that there is a need to introduce *T. gondii* screening in the blood donation scheme.