

## Seroprevalence of Toxoplasmosis among Hemato-Oncology Patients in Tertiary Hospital of East Cost Malaysia

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**Abstract :** Introduction: Toxoplasmosis is caused by an obligate intracellular parasite, *Toxoplasma gondii* (T. gondii). It is commonly asymptomatic in normal individual, but it can be fatal to immunocompromised patients as it can lead to severe complications such as encephalitis, chorioetinitis and myocarditis. Objective: The aim of the study was to determine the seroprevalence of toxoplasmosis and its association with socio-demographic and behavioral characteristics among hemato-oncology patients in Hospital USM. Methods: In this cross-sectional study, 56 hemato-oncology patients were screened for immunoglobulin M (IgM) antibodies, immunoglobulin G (IgG) antibodies, and IgG avidity of T. gondii by using ELISA Kit (BioRad, USA). For anti-T. gondii IgG antibody, titer  $\geq 9$  IU/ml was considered as recent infection, while for IgM, ratio  $\geq 1.00$  was considered as reactive for the anti-T. gondii IgM antibodies. Low avidity index is considered as recent infection within 20 weeks while high avidity considered as past infection. T. gondii exposure, socio-demographic and behavioral characteristics was assessed by a questionnaire and interview. Results: A total of 28 (50.0%) hemato-oncology patients were seropositive for T. gondii antibodies. Out of that total, 27 (48.21%) patients were IgG+/IgM- and one patient (1.79%) was IgG+/IgM+ with high avidity index. Univariate analysis showed that age, gender, ethnicity, marital status, educational level, employment status, stem cell transplant, blood transfusion, close contact with cats, water supply, and consumption of undercooked meat were not significantly associated with Toxoplasma seropositivity rate. Discussion: The seropositivity rate of IgG anti-T. gondii was high among hemato-oncology patients in Hospital USM. With impaired immune system, these patients might have a severe consequence if the infection reactivated. Therefore, screening for anti-T. gondii may be considered in the future. Moreover, health programme towards healthy food and good hygiene practice need to be implemented.

**Keywords :** immunocompromised, seroprevalence, socio-demographic, toxoplasmosis

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