**Latent Toxoplasmosis among Breast Cancer Patients in Jahrom, South of Iran**

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**Abstract**

*Objective.* Reactivation of latent toxoplasmosis is the main cause of severe infection among immunocompromised patients, including patients with cancer. Hence, this study is aimed at screening the status of *Toxoplasma gondii* infection among breast cancer patients by serological and molecular methods and determining their associated risk factors in Jahrom County, Fars Province, south of Iran. *Methods.* One hundred and seven women with breast cancer (aged 34 to 80 years) were screened for anti-*T. gondii* antibodies (IgG and IgM) during 2019–2020. A questionnaire regarding demographic factors was filled out by participants. Molecular detection was performed by polymerase chain reaction (PCR) using the primer pair targeting the repetitive element (RE) gene of *T. gondii*. The risk factors and demographic data were analyzed by SPSS software (ver. 20, Chicago, IL, USA) using the Chi-squared test. *Results.* Anti-*T. gondii* IgG was detected in 45.8% (49/107) of the patients, which indicates latent infection, but anti-*T. gondii* IgM and PCR were negative in all samples. Demographic factors revealed a statistically significant increased *T. gondii* seropositivity among nonmenopause cancer patients (), patients without previous breast cancer (), and human epidermal growth factor receptor 2- (*HER2-*) negative patients (). As such, patients with a history of previous abortions and who were at stages II, III, and IIII of cancer had higher seropositivity rates than patients without a history of previous abortions or who were at stage I cancer, but the statistical analysis was not significant. We did not find a statistically significant association between *T. gondii* seropositivity and other risk factors of toxoplasmosis (e.g., education level, type of water source, washing raw fruits and vegetables, consumption of raw or undercooked meat, and contact with soil, cats, and domestic animal). *Conclusion.* A high seroprevalence rate of latent *T. gondii* infection was detected among patients with breast cancer; hence, these patients may be at high risk for reactivation of latent infection. Screening of *T. gondii* infection is recommended to detect active infection among patients with malignancies.