Prevalence of Toxoplasmosis Infection in Iraqi Women with Different Types of Cancer

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Abstract

Background: *Toxoplasma gondii* is an obligatory intracellular parasite that is consider a major invasive parasite in immunocompromised individuals.

Objective: To determined the prevalence of *Toxoplasmosis* in patients with different types of cancer in Iraq.

Patients and Methods: Samples of blood were gathered from 258 women who included 112 healthy controls samples and 146 samples with different types of cancer. They were attended Oncology Teaching Hospital in the Medical City Hospital in Baghdad province from October, 2016 to February, 2017. Then the sera were tested to determine the anti-*T. gondii* antibodies (IgG and IgM) using enzyme linked immunosorbent assay.

Results: The highest seropositive rate of *T. gondii* IgG were noted in patients with lymph node cancer followed by breast, colorectal, liver, pancreas, lung, ovary, prostate cancer which was (100%, 77.50%, 77.42%, 75.00%, 66.67%, 66.67%, 54.55%, 28.57%) respectively with significant differences (P<0.01). This study focused on breast and colorectal cancer. According to the age groups, the seroprevalence of anti-*T. gondii* IgG was the highest in the age group (26-35) years in patients with colorectal and breast cancer which was (378.309 IU/ml, 374.561 IU/ml respectively) compared with control group (148.917 IU/ml). In regard to the anti-tumor dosage, the highest mean titer of IgG observed in dosage (0), the mean titer of IgG in patients with colorectal and breast cancer whose were seropositive to anti-*T. gondii* IgG were (242.016 IU/ml and 227.275 IU/ml) respectively, while in seronegative patients to anti-*T. gondii* IgG were (8.594 IU/ml and 6.011 IU/ml) respectively.

Conclusion: These finding suggest that incidental rate of toxoplasmosis is higher in cancer patients. Thus, the incidental rate of toxoplasmosis could be considered as an indication to the high risk of cancer. In addition, anti-*T. gondii* IgG test has to be taken into consideration as markers for staging cancer disease.

Key words: Toxoplasmosis Infection; Breast and Colorectal Cancer.

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