**REPUBLIC OF IRAQ**

**MINISTRY OF HIGHER EDUCATION**

**AND SCIENTIFIC RESEARCH**

**UNIVERSITY OF KUFA**

Genotyping Analysis To Determine The Lineages Types Of Toxoplasma gondii With Study Of Autoantibodies Production

*A thesis*

*Submitted to the Council of College of Science of Kuffa University In Partial Fulfillment Of The Requirement For The Dgree Of Philosophy Of Doctorate In Biology-Microbiology*

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2010 A.D 1431 A.

**Summary**

The present study determined the prevalence of toxoplasmosis among the women by using latex agglutination test (LAT) and enzyme linked immunosorbent assay (ELISA) test, and then detected the correlation between toxoplasmosis and autoantibodies production by using five markers which were anticardiolipin (aCL), antiphospholipid (aPL), anti-nuclear antibody (ANA), antineutrophil cytoplasmic antibody (ANCA) and Rheumatoid factor (RF).Genetic analysis of SAG2 locus by PCR-RFLP assay was performed, to determine the genotypes of *Toxoplasma gondii* strains .

A total of 434 clinically suspected cases of toxoplasmosis and 36 healthy women were involved in this study. Two hundred sixty (59.9%) of these suspected cases were diagnosed firstly as toxoplasmosis by LAT. Out of these LAT positive cases, only one hundred fifty six (47.4%) were positive by ELISA (IgG &IgM) which considered as a confirmed toxoplasmosis cases. The age of patient and number of abortions showed a Positive correlation with toxoplasmosis while residence, occupation and congenital anomalies did not have this correlation .

The effecting of toxoplasmosis in production of autoantibodies was studied through five markers. aCL was the first marker which was estimated by ELISA and revealed that, 19.4% of toxoplasmosis cases and zero% of control group showed positive result with significant differences (P<0.05) between patients and control groups. Also by ELISA test , 18.75% of toxoplasmosis patients and 10% of healthy controls had aPL antibodies , but with no significant differences (P>0.05) between these two groups.

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The immunofluorescent technique (IFAT) was used to estimate the ANA and ANCA. It was found that 9.8% and 5.5% of toxoplasmosis patients had ANA and ANCA respectively , but with no significant differences (P>0.05) when comparing with control group of each one .

RF was tested by LAT and revealed that 10% of both infected women and healthy controls had antibodies against RF with no significant differences (P>0.05) between them .

The present study was preformed the genetic analysis of *T. gondii* using nested PCR- RFLP assay at SAG2 locus, to determine the prevalence of the main genotypes (genotype) associated with toxoplasmosis women. This typing was directly conducted on clinical samples (blood and placenta). A total of 17 (58.6%) from 29 suspected samples were positive by PCR assay using B1 gene locus , out of 17 PCR positive cases, only 6 were successfully amplified by nested PCR and then were analyzed by restriction fragment length polymorphism (RFLP). Genotyping indicated that all these six cases were of type I strain