Serological and molecular studies on *Toxoplasma gondii* infection in Sheep and Goats in Ismailia Province, Egypt

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Blood serum samples from 100 sheep and 100 goats were collected and examined for *Toxoplasma gondii* antibodies by Enzyme-Linked Immunosorbent Assay and Modified Agglutination Test. The seroprevalences of *Toxoplasma gondii* in sheep were 34% and 33% and in goats were 32%, 31% by ELISA and MAT respectively. The prevalence in the females of sheep and goats were higher than males. The seroprevalences were higher in adult animals than young in both sheep and goats. Using the MAT as a reference test, the sensitivity and specificity of the ELISA Test were 100% and 98.5% respectively. Diagnosis of *Toxoplasma gondii* in 20 brain samples (10 from sheep and 10 from goats) using nested PCR techniques by amplification of the T. gondii B1 gene revealed that six sheep's brain samples were positive (60%) and six goat's brain samples were positive (60%). The bioassay was done by inoculation of *T. gondii* positive PCR samples into healthy mice. Histopathological examination of the experimental mice brains declared pathological lesions with a demonstration of pseudocysts containing bradyzoites within the host cell cytoplasm in the mice killed a 30th day and 35th day post inoculation.

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