

# ANTIGEN REACTION IN DETECTION OF *TOXOPLASMA GONDII* ANTIBODIES IN THE SERUM OF PREGNANT WOMEN HOUSEHOLD PETS IN BAQUBA SECTOR

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**ABSTRACT :** This study was aimed to detect the presence of antibodies of *Toxoplasma gondii* parasite in pregnant women in Baquba sector in order to determine the rate of infection and the risk, when they are dealing with the cats around or in their houses. This study was conducted in a period between March 2019 to September 2019 on a sixty pregnant women. The rate of infection with *T. gondii* in pregnant women was 4.2% (7 from 60) and 31.8% (53 from 60) were free from infection.

**Key words :** Pregnant women, *Toxoplasma gondii*, pets diseases.

## INTRODUCTION

*Toxoplasma gondii* is one-celled eukaryote microorganism, obligate intracellular that causes toxoplasmosis and consider as infectious disease (Dardé *et al*, 2011). All warm-blooded animals considered as at the high risk of infection with *T. gondii* virtually, but the domestic cats known as definitive hosts in which the parasite may undergo sexual reproduction (Knoll *et al*, 2019; Aguirre *et al*, 2019). It is postulated that *T. gondii* originated in South American felids with relatively recent expansion through migratory birds and in particular the transatlantic slave trade that promoted migration of domestic cats, rats and mice (Lehmann *et al*, 2006). In humans, *T. gondii* is one of the most common parasites in developed countries (Flegr *et al*, 2014). For example, previous estimates have shown the highest prevalence of persons infected to be in France, at 84% (Berdoy *et al*, 2000). This asymptomatic state of infection is referred to as a latent infection and has recently been associated with numerous subtle adverse or pathological behavioral alterations in humans. Though, it has been shown recently that the association between behavioral changes and infection with *T. gondii* is weak. In infants, HIV/AIDS patients and others with weakened immunity, infection may cause a serious and occasionally fatal illness, toxoplasmosis (Karen *et al*, 2016).

The risk factors for human and animal infection

include consuming infected raw or undercooked meat, ingestion of contaminated with oocysts shed infection; blood transfusion or organ transplants; intrauterine or transplacental transmission and drinking infected unpasteurized milk (Monoz-Zanzi *et al*, 2010). Frenkel *et al* (2003) were refer to the dogs fur considered as source of oocytes result in *T. gondii* infection.

## MATERIALS AND METHODS

### Samples collection

Sixty samples of blood (5mls) had been taken from the sixty pregnant women whom treated in the consultant center for obstetrics and gynecology in Al-Batool hospital in Baquba. The ages of all members of this study between 15-45 years. The collected blood samples were kept in gel tubes then, serum was separated and conserved at (-20°C) in the freezer till used.

### Test principle

Direct Agglutination Test (DAT) for diagnosis of infected from uninfected. Toxoplasmosis Latex (KIT) which carry *Toxoplasma gondii* antigen treated with formalin, which can agglutinate the *Toxoplasma* antibodies which are present in the serum of infected women. The kit is produced by AVMA USA company, which is contain suspension of latex granules covered by *T. gondii* antigen with 0.1% sodiumazide as a preservative material. Positive control from human serum with 0.1%