



## بسم الله الرحمن الرحيم

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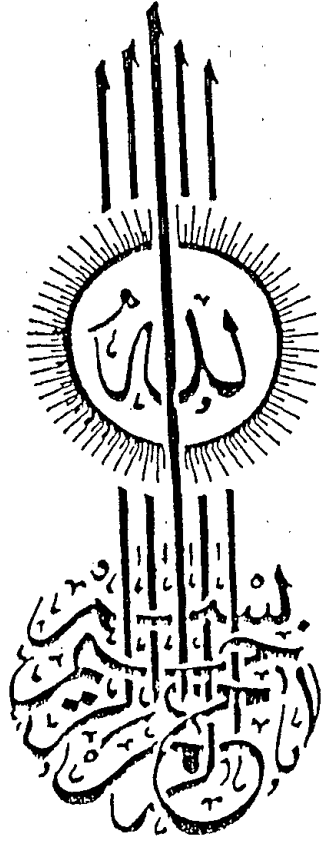
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« وعلمك ما لم تكن تعلم وكان فضل الله  
عليك عظيما »

صدق الله العظيم  
ومن الآية ١١٣ سورة النساء ،



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# **Studies on the Immunological Relationship between Viral Hepatitis and *Toxoplasma gondii* Infections in man and animals**

Thesis

Submitted for the Award of the Degree of M.V.Sc.  
Microbiology and Immunology

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To My Daughters

And My Wife

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# ***INTRODUCTION***

# INTRODUCTION

Pregnancy wastage includes repeated abortion, fetal death and malformation. It may be due to microbial, genetic, mechanical etiology and other factors. Among micro-organisms incriminated in cases of repeated and sporadic spontaneous abortion in women are parasitic (e.g. *Toxoplasma gondii*), Bacteria like (*listeria monocytogenes*, *campylobacter* spp. *Brucella*. spp.) Rickettsia (e.g. *Coxiella burnetii*). Viruses (e.g. cytomegalo viruses, Rubella and HEV (Copeland, 1993).

Toxoplasmosis is widespread throughout the world. It is a common parasitic infection of human and animals. Variations in geographical situation, eating habits, sanitary conditions, occupation, age and exposure to cats have been considered to affect the prevalence of toxoplasmosis in various parts of the world. Toxoplasmosis was suggested to be one of the most important zoonotic diseases causing repeated abortion and other syndromes in women.

The most common clinical manifestation of toxoplasmosis are usually enlarged lymph nodes in the head and neck, headache, sore throat, muscle pain, fatigue and mild febrile illness.

Diagnosis of toxoplasmosis depends frequently upon serological data by measuring antibodies against *Toxoplasma*. Serodiagnosis of toxoplasmosis may be done by Sabin-Feldman dye test (Sabin & Feldman, 1948), indirect haemagglutination (IHA) test (Jacob & Lunde, 1957) enzyme linked immunosorbent assay (ELISA) (Desmonts et al. 1981) and latex indirect agglutination test ( Guruz et al. 1996).

The role of animals in the transmission of agents involved in pregnancy wastage was carried out to determine the zoonotic partnership responsible for abortion in women.

The cat is the only definitive host of toxoplasmosis, where the agent (*Toxoplasma gondii*), develops in its intestine and the oocysts are excreted in its faeces. The ingestion of these oocysts by a suitable host results in the development of toxoplasmosis with its various manifestations including gynecological disorders and abortion (Beaver et al., 1985).

Viral hepatitis constitutes the most common cases of chronic liver disease in Egypt and has emerged as a major public health problem in all parts of the world. Viral hepatitis is a systemic disease primarily involving the liver producing acute inflammation. HAV and HEV are transmitted mainly by the fecal, oral routes while HBV and HCV are transmitted mainly by parental route.

Some sensitive serological tests have been developed for diagnosis of viral hepatitis, in addition to clinical signs. Serodiagnosis of infectious hepatitis is usually by detecting the antigens or antibodies using many methods as latex agglutination test, ELISA test, and immunocomb test.

Hepatitis E virus causes high incidence of abortion during the third trimester. In addition, the mortality rate is high for infants born to the mothers with acute hepatitis E during pregnancy where evidence existed for in-utero transmission of the virus (Krawczynski 1993).

Association between HEV and toxoplasmosis would augment the dangerous effect of them to the diseased pregnant women.

*AIM OF THE  
PRESENT WORK*

## **AIM OF THE PRESENT WORK**

**The present study aims at highlighting the following items:**

- 1- The prevalence of toxoplasmosis IgM & IgG antibodies in sera of pregnant women and its role in habitual abortion.
- 2- The role of cat in the epidemiological cycle of transmission of toxoplasmosis to pregnant women.
- 3- The prevalence of HBsAg, HCV antibodies and HEV antibodies among pregnant women.
- 4- The existence of an association between toxoplasmosis and viral hepatitis infections among pregnant women.