

SOME PHYSIOLOGICAL AND HISTOLOGICAL CHANGES IN THE MALE REPRODUCTIVE SYSTEM OF RATS (*RATTUS RATTUS*) EXPERIMENTALLY INFECTED WITH *TOXOPLASMA GONDII*

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ABSTRACT : *Toxoplasmosis* is a zoonotic infection of animals caused by the protozoan parasite *Toxoplasma gondii*. It is one of the most important pathogen in humans and other warm-blooded animals that have effect on reproductive function. The aim of this study was detected the effect of *toxoplasmosis* on some Physiological parameters and Histological structure in the male Rats testes infected with parasite *Toxoplasma gondii*. In this study used 16 white Swiss Male Rats (*Rattus rattus*). They divided into three groups 1st group were control group that treated orally with distilled water, 2nd group were infected with suspension of parasite (5×10^3 tissue cysts) that isolated from sheep meat, these animals killed after six weeks from infection and 3rd group were infected with suspension of parasite but they killed after Twelve weeks from infection. Results showed a significant decrease ($P \leq 0.05$) in the sperm parameters (including: sperm motility, viability, concentration and number of spermatozoa and testes weights) compared with the control groups; also it showed a significant decrease in the levels of testosterone and LH hormones in the serum of infected rats. Acute *Toxoplasma gondii* infection can cause impairment on the tissues of epididymis and testes in the male rats were necrosis and erosion epithelial cells of the seminiferous tubules and epididymis in addition to, inflammation and congestion veins up to 12 weeks after infection with *Toxoplasma gondii*. These findings suggest that toxoplasmosis can cause damage on the reproductive parameters of human or animal male as well as decline of different hormones *T. gondii* infection not only effect on female reproduction, also cause male reproductive.

Key words : *Toxoplasma gondii*, testosterone and LH hormones, testes.

INTRODUCTION

Toxoplasma gondii is an intracellular protozoan that reproduces sexually in the intestine of cats act as definitive host and asexual reproductive occur in tissues of any warm-blooded animal (including human, birds, mice and other mammals) acts as an intermediate hosts (Montoya and Liesenfeld, 2004). *Toxoplasmosis* is widely prevalent in man and animals throughout the world, including Iraq. The infection in human occurs through consuming food or drink contaminated with feces of cats containing Oocysts or tissue cysts (Torda, 2001; Tenter *et al*, 2000). Infection in humans is asymptomatic, who enjoy healthy immune, either people who suffer from HIV or congenitally infected children, it causes serious damage may to death (Weiss and Dubey, 2009). The last studies have shown that the *toxoplasmosis* causes inflammation and necrotic foci in the Spleen, liver, Lung and brain furthermore, congenital *toxoplasmosis* a result of transmission of parasites from an acutely infected mother to the fetus (Haziroglu *et al*, 2003).

Mention, Khaki *et al* (2011), Dalimi And Abdoli (2012) that the parasite effect on the male reproductive function may cause severe disease and it can occur pathological changes in the tissues of male reproductive such as testes, epididymis, prostate gland (Shen, 2001).

MATERIALS AND METHODS

Experimental animals

In this study, used 16 white Swiss male rats ranged weights (250-300) were obtained from animal house of the Department of Biology, University of Babylon. These animals divided to three groups each group contain five animals, 1st group animals served as controls were inoculated with 0.5 ml normal saline while 2nd group and 3rd group animals were inoculated orally with suspension parasite (5×10^3 tissue cysts for each rats) that isolated from sheep meat (Eid, 2004). After the inoculation, 2nd group animals were sacrificed after 6 weeks while 3rd group animals were sacrificed after 12 week, then isolating the organs (Testes and Epididymis) and it keep in formalin