شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها

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To be Kept away from Dust in Dry Cool place of 15-25- c and relative humidity 20-40%

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بعض الوثائـــــــق الاصليـــــة تالفـــة

بالرسالة صفحات لم ترد
بالاصل

Cairo University
Faculty of Veterinary Medicine
Department of Parasitology

Studies on Trypanosoma evansi infecting water buffaloes (Bubalus bubalis)

A Thesis
Presented By
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اللجنه

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ABSTRACT

Two hundred water buffaloes (*Bubalus bubalis*) collected from Cairo and Giza abattoirs were investigated for their infection with *T. evansi* using wet blood films, Field's stain smears, micro haematocrite centrifugation technique (MHCT) and mice inoculation and revealed negative finding for *T. evansi*. Serolgical examination of these buffalo-Sera using card agglutination test for trypanosomiasis (CATT) revealed that 48 buffaloes (24%) had antibodies against *T. evansi* at dilution 1: 4. Experimental I/V inoculation of 4 buffalo-calves with 10^6 *T. evansil* calf showed a prepatent period of 4 days with a patent period 6 days. Clinically the experimentally infected calves showed irregular rise of body temperature, hyperaemia, lacrimation, emaciation, falling of hair and reluctance to walk. Also, the calves showed decrease in hemoglobin concentration, packed cell volume, red cell count. Total leucocytic, lymphocytic and monocyte cell counts showed significant increase. Both of aspartate amino transferase, lactate delydrogenase enzymes showed significant increase while alkaline phosphatase enzyme showed significant decrease. Total protein showed mild significant increase on days 28, 56 and 77pi. The albumin showed non significant changes while the Globulins showed significant increase. Serum glucose showed significant increase. Total bilirubin and indirect bilirubin showed significant increase. Creatinine and urea showed significant decrease.

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INTRODUCTION

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Buffaloes are multipurpose domestic livestock species. They are employed for many functions such as to carry load in agricultural areas besides producing milk, meat, hide and financial investment of low income farmer in the Egyptian villages.

Until now, Meat and milk production in Egypt do not fulfill the requirements of human consumption. These animal products depend mainly on the general health conditions, which are impaired by several diseases. One of the most important diseases affecting buffaloes is surra disease. The disease is caused by *Trypanosoma evansi* which seemed to exhibit a well defined condition as a major world food producing animal health problem.

Surra in cattle and buffaloes is usually chronic ***(Brar and Sharma, 1962, Banasal, 1966)*** and it is characterized by anemia, progressive loss of condition, emaciation, loss of milk yield, abortion and immunosuppresion ***(Lohr et al., 1986, Damayanti et al., 1994 and Walia et al., 1996).*** In the chronic infection in buffaloes, some animals may survive but remain infected for several years, exhibiting low level of parasitaemia. These animals may serve as reservoir of infection for other buffaloes. Also, there is a considerable degree of pathological effect in the infected animals especially cattle, buffaloes and

sheep. Therefore, the use of these animals for food and milk production in most African and other third countries are greatly affected.

Although the disease in buffaloes is usually chronic and asymtomatic, acute infection with frank clinical signs are encountered ***(Ray et al., 1992).*** In addition a number of outbreaks in water buffaloes reported in Thailand, China, Philippines, Indonesia And Vietnam ***(Lohr et al., 1985; Fang et al., 1992 Cresencio et al.,1994;; Luckins, 1998 and My et al ., 1998).***

The information on trypanosomosis on buffaloes in Egypt are still scanty. There are no data on the incidence and course of surra with its pathological changes in buffaloes . Furthermore, a simple, sensitive and specific serological test is needed to diagnose trypanosomosis among water buffaloes in Egypt.

The main objects of the present study are to investigate the incidence of *T. evansi* affecting buffaloes in Egypt using parasitological and serological methods. In addition, experimental infection of 4 water buffaloes (*Bubalus bubalis)* was conducted for studying the course of the disease, clinical symptoms, different changes in blood parameters, serum biochemical parameters, liver function tests and kidney function tests. This study will also include evaluation of the serological

test; card agglutination test; for diagnosis of *T. evansi* infection in experimentally infected water buffaloes.

It is hoped that the results of this study will be of value for Parasitologists, veterinary clinicians and personals working in veterinary diagnostic laboratories.

REVIEW OF LITERATURE

thin blood films during dry and rainy season. The prevalence of *T. evansi* was 3.7% and 15.4% during dry season, while it was 17.1% and 23.6% during rainy season by thick and thin film respectively.

Lohr et al. (1986) found that the prevalence of *T. evansi* infection in buffaloes in 15 provinces in Northeastern part of Thailand during dry season was 33.3% and during rainy season 39.7% by examining thick and thin blood smear.

In China, 21 out of 247 buffaloes were infected with *Trypanosoma evansi* in endemic area of surra by using wet blood film examination ***(Fang et al., 1992).***

Raisinghani and Swarnkar (1992) in India carried out general surveillance for surra. Tested samples were collected from 50 buffaloes. Only two buffaloes were found positive by wet blood film examination. They added that outbreaks occurred in cattle and buffaloes under stress of draught.

Singh et al. (1992) stated that from 323 naturally infected and suspected buffaloes samples, 62 animals (19.19%) were found *T. evansi* positive by blood smear examination.

In an outbreak in island of Mindanao, Philippines ***(Cresencio et al., 1994)***, 276 caraboas (swamp buffaloes) were found dead from surra.