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## PREVALENCE OF TOXOPLASMOSIS AMONG SHEEP AND GOATS IN BAGHDAD AREA

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### ABSTRACT

The complement fixation test (CFT) and the direct fluorescent antibody test were used for detecting anti-Toxoplasma gondii antibodies in sera obtained from 143 sheep and 44 goats. Complement fixing antibodies were detected in 38 (26.2%) for sheep sera and 24 (54.5%) of goat sera tested by CFT.

On the other hand, 26(18.2%) of sheep sera were positive by the IFAT. The combined use of CFT and IFAT allows the differentiation between an acute or latent T.gondii infection.

### INTRODUCTION

Toxoplasma has been known since 1908 as a tissue parasite of many species of mammals and birds (1). Some investigators showed evidence that about 100% of some human population were serologically positive to this parasite (2) and 500 million people worldwide. Raw and under cooked meat, are thought to be the principle sources of human infection.

This study was done to determine the prevalence rate of T. gondii antibodies among sheep and goats in Baghdad using IFAT and CFT.

### MATERIALS AND METHODS

Sera were collected from jugular vein, from 143 sheep and 44 goats at 2 abattoirs in Baghdad province at the time of slaughter. Each serum sample was divided into 2 portions and stored at  $-20^{\circ}\text{C}$  until used.

#### Complement Fixation Test (CFT):

The test was performed according to Cooney et al (7) using a soluble sonicate of T. gondii trophozoites (RH Strain), passed in Balb/c mice. The reagent used in the test was obtained from Behring Institute (Germany). All sera were inactivated at  $56^{\circ}\text{C}$  for 30 minutes before tested.

#### Indirect fluorescent Antibody test (IFAT)

It was performed according to Jasim (8). Antigen was prepared from trophozoites obtained from peritoneal exudate of mice. Fluorescein conjugated anti-sheep IgG was obtained from cappel (organon Teknika Coporation).

### RESULT AND DISCUSSION

Complement fixing antibodies to T. gondii were detected in 38 (26.6%) of the 143 sheep sera, and 24 (54.5%) of the 44 goats sera as shown in Table (1).

The finding that, 54.5% of goats had positive antibody titers to T. gondii appears to be higher than those obtained in Saudi Arabia 8% (9), in Spain 43.8% (10) and Iraq 40.5% (11).

Sheep showed relatively lower positively rate (26.6%) than goats using CFT (Table 1) and 18.2% using the IFAT (Table 2). Our results in sheep appears to be higher than was found in Saudi Arabia (11%) using the IHT (9).

The rate of positively determined by CFT in sheep sera was slightly higher than those obtained by the IFAT. 12 sheep sera were positive by both tests. Mehlhorn (12) stated that, the combined use of CFT and IFAT allows the differentiation between an acute or latent T. gondii infection. High IFAT titers together with positive CFT results generally demonstrate an acute infection.

Table 1: Distribution of positive titers to T. gondii using Complement Fixation test;

Titers	No. +ve(%)	
	Goats	Sheep
1/16	14(31.8)	14(9.8)
1/32	7(15.9)	14(9.8)
1/64	2(4.5)	6(4.2)
1/128	1(2.3)	1(0.7)
1/256	0	0
1/512	0	3(2.1)
Total No. +ve	24(54.5)	38(26.6)

Table 2: Distribution of positive titers to T. gondii using Indirect fluorescent antibody test in sheep sera.

Titers	Total No. +ve
1/64	9(6.3)
1/128	11(7.7)
1/256	4(2.8)
1/512	2(1.4)
Total No. +ve	26(18.2)

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## مدى انتشار داء المقوسات في الاغنام والماعز في منطقة بغداد

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### الخلاصة

تم استخدام اختباري تثبيت المتمم (CET) والتألق المناعي غير المباشر (IFAT) للكشف عن اجسام المضادة لطفيليات المقوسات الكونديية في مصول ١٤٣ من الاغنام و ٤٤ من الماعز في محافظة بغداد. اظهرت نتائج اختبار تثبيت المتمم لمصول الاغنام ٣٨ (٢٦,٦%) حالة موجبة ، ولمصول الماعز ٢٤ (٥٤,٥%) حالة موجبة. كذلك اظهر استخدام (IFAT) لمصول الاغنام ٢٦ (١٨,٢%) حالة موجبة. تبين ان باستخدام الاختبارين يمكن التمييز بين الحالات الحادة أو الكامنة للمرض.