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**PREVALENCE OF BRUCELLOSIS AMONG
FARM ANIMALS IN KAFR-EL-SHEEKH GOVERNORATE**
(With 3 Tables)

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مدى إنتشار مرض الإجهاض المعدى في حيوانات المزرعة
في محافظة كفر الشيخ

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أستخدم إختبار الروزينجال لإكتشاف مرض الإجهاض المعدى في الأنواع المختلفة من
حيوانات المزرعة في محافظة كفر الشيخ وقد أسفرت النتائج عن تحديد أعلى نسبة للإصابة
بهذا المرض بين الأغنام (١٢٪) وتلتها الجاموس (٣٠٩٪) ثم الأبقار (٢٢٢٪) ولم
تظهر أى حالة إيجابية بين الماعز. وقد إتضح أيضاً من الدراسة أن أعلى نسبة إصابة بـ
الحيوانات مرجودة في المنيا حيث وصلت نسبة الإصابة في الأبقار (٣٠٣٪) والجاموس
(٥٠٪) وفي الأغنام (٢٠٪). وقد نوقشت طرق مقاومة هذا المرض والتخلص منه.

SUUMARY

Rose Bengal plate test was carried out on 462 blood sera of different
animal species belonging to various localities in Kafr El-Sheekh Governorate.
It was revealed that the infection rate was found to be 2.27%, 3.09%,
4.73% & Zero % among cattle buffaloes, sheep and goat respectively.

The highest incidence of brucellosis was noticed at El-Menia village where
it was 5.5% amongst buffaloes while it was 5.2% amongst sheep.

An eradication program in order to minimize the risk of brucellosis among
farm animals was discussed.

INTRODUCTION

Brucellosis is widespread disease and of major economic importance. The actual
losses due to the disease are difficult to estimate but are given as approximately \$
35 million annually in United States of America. These are from abortions, decreased
milk yield, temporary or occasionally permanent sterility, and sale and replacement of
diseased cattle (NICOLETTI, 1980).

The incidence of the disease varies considerably between herds, areas and coun-
tries however, some countries are free from the disease either because of measures
taken to prevent its entry or to eradicate it, but where the disease is endemic the
incidence may apprach 20-30% (JUBB and KENNEDY, 1970).

In Egypt the rate of infection with this disease varies greatly between different animal species. NASHED (1977) found that 0.25% of cattle, 0.22% of buffaloes, 0.74% of sheep and 0.82% of goats were positive reactors for brucella infection. Moreover, FAYED *et al.* (1982) estimated a percentage of 1.9, 0.47 and 8.33 respectively among cattle, buffaloes and camel. On the other hand, ZAGHLOUL and KAMEL (1985) reported that the highest incidence of brucellosis was demonstrated amongst cattle (2.7%) followed by buffaloes (1.44%). However, no positive reactors were found among sheep and goat. Moreover, ABOU ISHA (1986) revealed that a percentage distribution of positive cases as indicated by Rose Bengal plate test was found to be 5.6, 4.8, 1.8 and Zero in sheep, cattle, buffaloes and goats respectively. More recently BEKHEET (1989) recorded a percentage of 1.52% and 9.76% respectively among buffaloes and cattle.

The aim of the present work was to study the prevalence of brucellosis amongst farm animals in Kafr-El-Sheekh Governorate using the Rose bengal plate agglutination test.

MATERIAL and METHODS

1. A total of 462 blood samples were aseptically collected from different animal species belonging to various localities in Kafr-El-Sheekh Governorate, table (1). The blood was allowed to clot and serum was obtained by centrifugation at 3000 r.p.m. for 15 minutes. The serum samples were put in sterile labelled glass vials and kept in deep Freeze.

2. Rose Bengal Plate test : All blood sera were subjected to the R.B.P.T. The technique performed was as the same as that previously recommended by MORGAN and RICHARDS (1974). The antigen used was prepared and standardized in Central Veterinary Laboratory (C.V.L.) in Weybridge, Britain.

Table (1): Numbers and localities of the examined animals.

Locality	Animal species			
	Cattle	Buffaloes	sheep	goat
El-Menia	66	36	154	15
El-Khaleeg	40	30	15	5
Bani Bakar	23	15		
Fowa	18			
Sedi Salm	29	16		
Total	176	97	169	20

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RESULTS

The prevalence rate of brucellosis among various animal species is recorded in Table (2).

The incidence percentage of brucella infection among different animal species in various localities of Kafr-El-Sheekh Governorate is recorded in Table (3).

Table (2): Prevalence rate of brucellosis among various animal species.

Animal species	Number of examined animals	Number of positive reactors	Percentage of infection
Cattle	176	4	2.27
Buffaloes	97	3	3.09
Sheep	169	8	4.73
Goat	20		

Table (3): Incidence of brucellosis among different animal species in various localities of Kafr El-Sheekh Governorate.

Locality Animal species	El-Menia			El-Khaleeg			Bani-Bakar			Fowa			Sedi Salm		
	t	+ve	%	t	+ve	%	t	+ve	%	t	+ve	%	t	+ve	%
Cattle	66	2	3.03	40	1	2.5	23	-	-	18	-	-	29	1	3.4
Buffaloes	36	2	5.5	30	-	-	15	1	6.7	-	-	-	16	-	-
Sheep	154	8	5.2	15	-	-	-	-	-	-	-	-	-	-	-
Goat	15	-	-	5	-	-	-	-	-	-	-	-	-	-	-

DISCUSSION

The Rose Bengal Plate test (R.B.P.T) was recommended by several investigators for detection of brucellosis in the recently infected and chronic cases. Also this test was chosen due to its practicability and efficiency (CORBELL, 1972 and CHERNYSHEVA et al., 1980).

The data presented in table (2) revealed that the incidence of brucella infection using the Rose Bengal Plate test was 2.27% among the tested 176 cattle sera. Such percentage is coincided with that previously recorded by SANAE SALEM (1982) but it considered lower than that have been reported by ABOU ISHIA (1986) and BEKHEET

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(1989) who estimated an infection rate 4.8% & 9.76% respectively. However, these results were found to be higher than that obtained by HAMADA et al. (1963) who failed to detect any positive reactors among cows.

Among buffaloes the incidence was 3.09% and this is a relatively high percentage if compared with than obtained by FAYED et al. (1982) and ZAGHLOUL and KAMEL (1985) who recorded an incidence 0.47% and 1.44% respectively. On the other, hand, YEHA (1961) and KAMEL & ABDEL FATTAH (1961) detected a higher infection rate among Egyptian buffaloes as much as 10.16% and 23% respectively. In our recent study the incidence of brucellosis among sheep was 4.73% and this is relatively high if compared to that obtained by NASHED (1977) and ZAGHLOUL (1980) who reported that an infection rate of 0.74% and 2.13% respectively. On the other hand ABO ISHA (1986) detected a higher infection rate of sheep with brucellosis and as much as 5.6%. However FAYED et al. (1982) and ZAGHLOUL & KAMEL (1985) Failed to detect any positive reactors among sheep.

As shown in table (2) no serologically positive reactors were detected among goats. The same results were reported by ABO ISHA (1986). Conversely, ZAGHLOUL (1980) recorded an incidence of 3.19% brucella positive reactors among goats.

It is clear from this investigation that the highest incidence of the disease was in sheep (4.75%) followed by buffaloes (3.09%) and cattle (2.27%) confirming the results reported by UVAROV (1971). Moreover, this slant explains plainly the role of these animals in the epidemiology of brucellosis. Sheep were responsible much more than cattle and buffaloes for the epidemic spread of the disease. The continuous movement of infected sheep searching for suitable pastures and where veterinary sanitary measures are more or less lacking constitute favourable conditions for the creation of superinfection (UVAROV, 1971). In the same time higher incidence of the infection between sheep necessitate more investigation of the disease among this species of animals.

The distribution of brucella positive reactors in different localities in Kafr El-Sheekh Governorate were illustrated in table (3). It was clear that the incidence of the disease in El-Khaleeg Vilage was found to be 2.5%, while in Sedi Salem was 3.4% among cattle. Also it was found that the highest incidence of the disease was recorded in El-Menia village in which 3.3%, 5.5% & 5.2% of cattle, buffaloes and sheep were found to be infected respectively.

The existance o brucella infection among buffaloes and sheep in such high level constituted a main hazard for animal health in infected areas. Asimilar opinion was previously reported by MAITI et al. (1980).

Comparing the obtained results with that previously reported by other workers, it was found that the infection rate of brucellosis among farm animals in Egypt is not static. However, the evolutionary changes in the animal husbandry as well as the extent of population movement are considered the main factors which increase the exposure potential of individual animals or herds to brucellosis. Therefore the need

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of a regular investigation must be stressed in order to determine the extent of brucella infection among farm animals.

Therefore, an eradication program must be achieved in order to minimize the risk of brucella infection among farm animals. However, the justification for the control and prevention of brucellosis are usually divided into three main categories. These are vaccination, test and isolation or slaughter of seropositive reactors as well as the management practices that reduce exposure potential.

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