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## Brucellosis in cows and buffaloes in Egypt

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### ABSTRACT

The serological testing of 1,832 blood samples from cows and 118 samples from buffaloes revealed an incidence of positive reactors in TAT of 37.9% in cows and 10.2% in buffaloes. The Riv.T and RBPT were positive in 32.8 and 7.8% in cows and buffaloes respectively. In another group of animals the incidence was 61.8 and 22.2% in cows and buffaloes respectively. The *Brucella* isolates recovered from milk, aborted foeti and supra-mammary lymphnodes could be typed as *Br. melitensis* biotype 3. The remaining isolates were typed as *Br. abortus* biotypes 3 and 7. From buffaloes only *Br. abortus* biotype 3 was isolated.

Brucellosis in animals has attracted attention in Egypt since 1939. The incidence of serological reactors recorded varied, however, from one author to another. In cows, Kamel and Abd El-Fattah (1961) reported an incidence of 23.3%, Hosein (1985) 16.8% and Shalaby (1986) 22.2%. The incidence of serological reactors among buffaloes varied from 7 to 10% (Ahmed, 1939; Kamel and Abd El-Fattah, 1961).

*Brucella abortus* was recovered from cattle by Zaki (1943), Roushdy (1944), Kamel (1971) and El-Gibaly (1969). However, since 1970 *Brucella melitensis* was also isolated from cattle (Sayout *et al.*, 1970; Kamel, 1971; El-Gibaly *et al.*, 1977).

The aim of the present work was to investigate the present status of brucellosis in cows and buffaloes in Egypt.

### MATERIALS AND METHODS

Blood samples (1,950) were collected from cows (1,832) and buffaloes (118), and examined serologically by tube agglutination test (TAT), rivanol test (Riv.T) and rose bengal plate test (RBPT). From another 471 cows and 54 buffaloes both blood and milk were tested by the TAT and Abortus Bang Ring test (ABRT).

Isolation of brucellae was attempted from 60 supra-mammary lymphnodes, 94 aborted foeti and 61 milk samples from cows, and 1 aborted foetus and 11 milk samples from buffaloes. Isolation and identification were carried out according to Alton *et al.* (1975).

### RESULTS

The serological testing of the first group of animals revealed an incidence of positive reactors in TAT of 37.9% in cows and 10.2% in buffaloes. The Riv. T. and RBPT were positive in 32.8% and 7.6% of samples of cows and buffaloes respectively (Table 1).

The results of TAT and ABRT were almost identical (Table 2). The incidence of positive reactors in this group was however much higher than in the first group of

Table 1. Results of serological testing of blood sera of cows and buffaloes

Animals	Samples No.	TAT		Riv.T		RBPT	
		No.+	%	No.+	%	No.+	%
Cows	1,832	696	37.9	600	32.8	600	32.8
Buffaloes	118	12	10.2	9	7.6	9	7.6

Table 2. Serological examination of sera and milk

Animals	Samples No.	TAT		ABRT	
		No.+	%	No.+	%
Cows	471	291	61.8	278	59.0
Buffaloes	54	12	22.2	10	18.5

animals.

From the 215 samples of cows, 95 *Brucella* isolates could be recovered; 91.5% of the isolates were *Brucella melitensis* biotype 3 and the rest *Brucella abortus* biotypes 3 and 7 (Table 3). The 2 buffalo isolates were recovered from milk and were typed as *Brucella abortus* biotype 3.

Table 3. Biotypes and sources of *Brucella* isolates

Animals	No. of samples	No. of isolates	Biotypes	Sources		
				Milk	Foeti	Lymphnodes
Cows	215	95	<i>Br. abortus</i> biotype 3	-	3	-
			<i>Br. abortus</i> biotype 7	2	3	-
			<i>Br. melitensis</i> biotype 3	19	31	37
			<i>Br. abortus</i> biotype 3	2	-	-
Buffaloes	11	2	<i>Br. abortus</i> biotype 3	2	-	-

## DISCUSSION

Though the number of samples examined was limited the results indicated the increasing incidence of brucellosis in animals in Egypt. This was coupled with a sudden increase of importation of animals from countries known to have the disease during the last 5 years. This may also explain the recovery of *Br. abortus* biotype 7 from cows for the first time in Egypt.

Although the isolation of *Br. melitensis* from cows was reported by El-Gibaly *et al.* (1975), the high incidence of this biotype in the present work was surprising. A nation-wide survey was however needed to achieve the correct incidence of *Br. melitensis* among cattle in Egypt. This will certainly have an impact on the choice of the type of the vaccine to be used for the control of the disease.

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