

SERO-EPIDEMIOLOGICAL STUDY ON BRUCELLOSIS IN AL-RASHIDIA VILLAGES - BAGHDAD

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دراسة وبائية مصلية على حمى مالطا في قرى الراشدية، بغداد

الخلاصة

اجريت الدراسة على ٢٠٠ شخص (١٢٠ ذكر و ٨٠ أنثى) من سكة قرى ناحية الراشدية / بغداد. تم اختيار الاشخاص عشوائياً، وتبين ان اعمارهم تتراوح بين (١٠-٥٠) سنة. اجري لهم فحص الاستشعاع المناعي غير المباشر للاجسام المضادة لمرض حمى مالطا في مصل الدم. اظهرت الدراسة ان ٢٢,٢٪ من الاشخاص كانت فحوصهم موجبة للاجسام المضادة، كما تبين ان ١٧٪ من افراد العينة كانت فحوصهم الموجبة غير مصحوبة باعراض. اوصت الدراسة بضرورة نشر الوعي الصحي لايقاف انتشار المرض.

SUMMARY:

The study was carried out on 200 individuals (120 males and 80 females) from Al-Rashidia villages in Baghdad. The individuals were chosen randomly, their age range was 10-50 years. IFAT was done to detect Brucella anti-bodies in their sera. The study showed that 23.2% of total individuals were positive for brucella antibodies and that 17% of total sample with positive IFTA were a symptomatic. The study recommends the importance of health education to prevent the spread of the disease.

INTRODUCTION:

Brucellosis is a widely spread zoonotic disease transmitted to man from infected

animals through ingestion of raw milk and its derivatives, it is caused by Gram-negative coccobacilli of three species, abortus, melitensis and suis, transmits usually through ingestion, inhalation and direct inoculation of contaminated material through broken skin(1,2). It is a disease of importance in public health and is considered an occupational hazard to veterinary surgeons, laboratory personnel, slaughterhouse workers and others(3).

The disease was studied by several researchers(4-10). This study was based on serological surveying of different groups of population so as to know the prevalence and some of the epidemiological distribu-

Table 1. Distribution of brucella antibodies according to the sex and titer

Sex	Population			Titer					
	All	Neg.	Post.	1/16	1/32	1/64	1/128	1/256	% Post.
Male	120	89	31	15	10	4	1	1	15.5
Female	80	64	16	7	4	3	2	-	8.0
Total	200	153	47	22	14	7	3	1	23.5

Table 2. Distribution of brucella antibodies according to the age and titers

Age	Population			Titer					
	All	Neg.	Post.	1/16	1/32	1/64	1/128	1/256	% Post.
11-20	46	34	12	4	4	3	1	-	6.0
21-30	54	43	11	5	3	2	-	1	5.5
31-40	61	43	18	9	5	2	2	-	9.0
41-50	39	33	6	4	2	-	-	-	3.0
Total	200	153	47	22	14	7	3	1	23.5

Neg. = Negative cases,

Post. = Positive cases

tion of the disease in these villages.

MATERIALS AND METHODS:

- 1- A group of 200 individuals of different ages and both sexes were chosen randomly (Tables 1,2).
- 2- A drop of blood was taken on whatman no3 paper in order to tested serologically in Central Health Laboratory - Ministry of Health.
- 3- Indirect immuno fluorescence technique was used to detect brucella antibodies. A titer of 1/16 or 1/32 was considered to be of past exposure while titers of 1/64 and above meant active disease(6).
- 4- Complete history, physical examination and direct interview questionnaire were done.

RESULTS:

Table 1 shows the distribution of brucella antibodies according to sex and antibody titers. The total positive cases formed 23.5% of the sample.

It was shown that 9.0% out of 23.5% of positive cases were of age 31-40 years (Table 2). Regarding the titer distribution it was shown that eleven individuals had active disease. Table 3 shows that 17% out of 23.5% of positive cases presented without signs and symptoms.

DISCUSSION:

In this study, the prevalence rate of brucellosis was 23.5% which is low in comparison to Al-Adhami and Jawad study(7) which was 33%, yet it was high in

comparison to other studies(8-10). This result may be due to the high density population of animals, excessive handling and consuming of milk and its derivatives without the use of ideal methods of processing and pasteurization due to low educational level of the population. It was found that the prevalence rate increased with age which agrees with Rakan et. al. study, which may be due to the low gastric acidity in the older age group as comparing with young ones which gives protection against micro-organism. Beside, older age groups usually have a higher chance of exposure to infection due to their excessive handling of animals and their products.

The study also shows that 17% of total population with positive results presented a symptomatically which indicates that the disease may be subclinical or of mild form that make the population unaware to notice the disease or ignore it, due to their low educational level and the difficulties to reach the health services while about 8.5% of population with positive IFAT presented with many non specific signs and symptoms.

The study recommends, health education of the population about the disease, its transmission and measures of prevention, also diagnosis of infected animals through veterinary services, segregation of these animals, vaccination of other animals and education about pasteurization of

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Table 3. Distribution of brucella antibodies according to the clinical presentation and titers

Clinical Presentation	Population			Titer					
	All	Neg.	Post.	1/16	1/32	1/64	1/128	1/256	% Post.
No Symptom	187	153	34	22	8	4	-	-	17.0
Fever	5		5	-	2	2	1	-	2.5
Fever + Joint Pain	5		5	-	2	1	2	-	2.5
Fever + Joint Pain + Sweating	3		3	-	2	-	-	1	1.5
Total	200	153	47	22	14	7	3	1	23.5

Neg. = Negative cases,

Post. = Positive cases

milk & healthy processing of other dairy products is important.

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