Brucella antibod titres base line In the healthy individuals In Haweja city

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Summary

152 sera were collected from healthy individuals residing Al-Haweja City were tested for antibody titers for Brucella antigens by slide agglutination test(SAT) which detect 102 (67.1%)cases of antibody titer ranging from 1:20 to 1:320.The SAT negative sera(50 sera) were furtherly subjected to Coombs test which detect 22(14.4%)cases as chronic carriers. Therefor this study revealed , the high exposuer to the brucella antigens in Al haweja city and regarding antibody titer of 1:160 against Brucella antigens as the base line for diagnosis of brucellosis in Al- Haweja population .

Introduction

Human brucellosis is a widely spreaded disease in Iraq(1). Laboratory diagnosis of human brucellosis in Iraq has rely on serological tests, because blood culture is often negative. Sera of previous or latent infections showed agglutinins for brucella antigens in low dilutions(2- 4).

Interpretation of standard brucella agglutination tests; therefore need to be based on the level of brucella antibodies in the sera of the healthy population (5). Accordingly a number of surveys have previously been carried out in different regions all over the world to establish the level of normal agglutinins to brucella antigens in the general population (6-9).

These surveys revealed that the level of brucella antibodies varies greatly from country to country depending on endimicity of the disease (5). Most surveys indicated that the percentage of reactant to Brucella antigen higher in rural than in urban communities (10). However, there is no similar work done locally to establish the normal base line antibody titers for brucellosis in healthy population in Al-Haweja City.

This study aim to establishing a base line of Brucella antibody titer in Al Haweja population .

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Materials and methods

In this paper we report data obtained from survey of antibody levels against *Brucella* antigens in sera of healthy individuals from different areas of Al-Haweja community .

The healthy subjects were selected on the basis of the following:

1. No symptoms suggesting Brucella or Cholera infection at the time of sample collection.
2. No symptoms related to any illness especially fever at the time of sampling.
3. Had no previous history of infection and vaccination against cholera.

The Brucella slide agglutination test (SAT) was performed using Brucella antigen which supplied by vaccine and sera institute (Baghdad), as a concentrated suspension of heat killed B. abortus strain 99 in a 0.5% phenol solution and PH 3.65.The clinical laboratory aid manual peral river, N.Y, 1968 method was adopted in this test (11). Serum samples were subjected to serial dilutions between 1:20 to greater than 1:1200 on a large plate glass.

However the non reactive sera on SAT ,were furtherly subjected to Coombs test , where the technique of the european method was adopted(12) . This test (***Coombs***) was performed to detect the incomplete antibodies which appear in chronic carriers (13).

Results

The result showed that 102 (67.1%) had a detactable agglutinins titers ranging from 1:20 to 1: 320 . However only 22(14.4%)sera sample were detacted by Coombs test . (Table 1)

Table (1), distribution of Brucella antibodies among healthy individuals in AL-haweja city.

Titer	Nil	1:20	1:40	1:80	1:160	1:320
NO of cases	50	8	6	23	41	24

All reactant cases in both groups of study are farmers & animal breeders whether they are males or females . Moreover all cases gave positive history of contact with animales or their products .

According to sex disribution of reactant cases , female cases , shows more reaction to Brucella antigens than males (Table 2)

Table (2), sex distribution of reactant cases.

	SAT	*Coombs*	*Total*
Male	*35*	*9*	*44*
Female	*67*	*13*	*80*
Total	*102*	*22*	*124*

Discussion:

Due to the fact , the rural population is in close contact with animals ,their secreations & ingestion of fresh milk which may not always sterilized (pasteurized), while the urban population are a ware about the disease , hence study aim to evaluate the base line of antibodies titers in sera of healthy individual in Al-Haweja city

which is considered as a rural area . Therfor the endimicity of brucellosis in this city(Al-Haweja)may be indicated by the result of such study.

In this study the figure of the disease is closely related to the fact that Al-Haweja population is highly exposed to the Brucella antigen, hence they are bounded to have residual antibodies in their serum due to the past latent infection. However, another problem projecting there, that crosse reactivity of Brucella antigens with other microorganism antigens present in such community.

The results of this study agree other studies in Iraq (1) ,Sudan (5), Argentine (9) and U.K. (8).

In this study, reaction to Brucella antigens was associated slightly more in females than males, this reflecting the fact, that, females closely contact with animals and their products than males in Al-Haweja community. Conclusively and on the bases of the data obtained, the base line was found to be around 1:160 for Brucella agglutinin in the healthy Al-Haweja population and need to be applied when reading agglutination reaction.

References

1. Al-Thwaini,Amina.N., Shinashal,Reem.Z.,Al-Abbasi, AbdulRedha.M.2001study onepidemiology of brucellosis among human & animals in some discrits of Baghdad Iraqi. J. sci..42(2):22-37

2. Al-Moslih, I.M., Al-Mulle, M.Z. and Al-samarrai, S.S. 1989 Seroepidemiological studies of brucellosis in cases of FUO in Baghdad. Iraqi. M.J.38: 13-18.

3. Al-Shaarbaf, H. H. and Yahya, Hassan I.: Brucellosis in Iraq. (1988). Iraqi. M.J.36 (9): 16-19.

4. Al-Nadawi, Mahjoob, Al-Beiruti, Ayman A.R., Al-Zuhairi, RaadA. K. (1994): Childhood brucellosis in Baghdad.. Iraqi M.J. 36(3): 395-410.

5. Omer, E.E., Habiballa, N.and Dafaala, E .A. 1978 Evaluation of the standard agglutination test in the diagnosis of human brucellosis in the Sudan. J.Trop.Med. Hyg 81:190.

6. Davis, B.D., Dulbecco R.;Eisen H.N.;Ginsberg;H.S;Wood,W.B.& McCarty,M. 1973 Microbiology 2nd.: New York, Harper and Row, 816

7. Eisele, C.W. M.C., Cullough, N.B. and Beal, G.A.(1973):Brucella agglutination test and vaccination against Cholera:J. Amer. Med.Ass .135:983

8. Henderson, R.J. ; Brucellosis in the Dairy –F arming Community and Allied workers of Worcestershire(1967):Lancet ;2; 353

9. Wilson,G.S.,Miles, A.A. Topley,andWilson, S.S(1975): Principles of Bacteriology, Virology and Immunity.: Vol. 2:6th ed., London, Edward Arnold.

10. Farrel, I.D., Robertson, L. and Hinchlife, P.M. (1975): Serum antibody responses in acute brucellosis.: J.Hyg: 74:23.

11. Clinical laboratory aids manual, Pearl River, N.Y. 1968 Lederle Laboratories.

12. Joint FAO/WHO (1986):Expert committee on brucellosis .6th report .Wld .Hlth Org. Tech.Rep.Ser. No.740 Genave .

13. Akdeniz, H., & Anlar, O. 1998 Central nervous system brucellosis Presentation , Diagnosis & Treatment . J infect 36 (3):297-301.

مستوى الاساس لعيارية مستضد البروسيلا عند الاصحاء في مدينة الحويجة

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الخلاصة :-

جمع (١٥٢) مصل من اشخاص اصحاء يسكنون مدينة الحويجة ،اخضعت هذه المصول لفحص تلازم الشريحة ،اذ تم تشخيص ١٠٢ (١. ٧٦ %) حالة وبعيارية تتراوح من ١/٢٠ الى ١/٣٢٠ . اما المصول التي اظهرت تفاعلا سلبيا مع فحص تلازم الشريحة ،اخضت لفحص ***coombs*** والذي شخص ٢٢(١٤,٤ %) حالةمزمنة .بينت هذه الدراسة ان تعرض سكان مدينة الحويجة عالي لمستضد البروسيلا(حمى مالطا)لذا تؤكد هذه الدراسة بأن عيارية المستضد ١/١٦٠ تعد الخط الاساس لتشخيص حمى مالطا في مدينة الحويجة.