Incidence of Brucellosis in One-Humped Camels of Boushehr, Iran

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Summary

A survey on camel brucellosis in Boushehr province of Iran was carried out during the year 1997. A total of 258 serum samples were collected and serologically examined. Out of these samples, 5 cases (%1.93) showed laboratory evidence of *brucella* infection. In bacteriological examination, the lymph nodes of all serologically positive camels were cultured. *Brucella melitensis* biotype 1 was isolated from two cultures.

***Key words*:** brudellosis, camel, antigen, Iran, *Brucella melitensis*

Introduction

Brucellosis is a common disease to man and animal and has been recorded in different species of domestic animals. Camel is susceptible to brucellosis and meny diagnostic studies on it have been made in different countries (Chauhan *et al* 1986, Zowghi & Ebadi 1988, Ajmal *et al* 1989, Yagoub *et al* 1990, Faraj *et al* 1991, Baumann & Zessin 1992).

A few reports exist on the diagnosis of *brucella* in slaughtered camels in eastern and northern areas of Iran (Razmyar *et al* 1997, Zowghi & Ebadi 1988). But from southern part of Iran there had not been any reports.

To detect the possibility of brucellosis in apparently healthy camels of Boushehr, a southwest province, the present study was done.

Materials and methods

Sample. Blood samples from 258 male (10) and female (248) one-humped camels aged 2-9 years, were collected during 1997 in the different parts of Boushehr.The blood collected in venoject tube, by jugular venpuncture was allowed to clot and tube centrifuged immediately to separate the serum.

Antigen. Antigens for serum agglutination (SA), Rose Bengal Plate (RBP) and 2 mercaptocthanol (2ME) tests were prepared and standardized according to the method of Alton *et al* (1975). For making the antigens *brucella abortus* strain 99 was obtained from Razi Institute, Tehran.

The RBPT, SAT and 2MET were carried out according to Alton *et al* (1975) and Brinley Morgan *et al* (1981). In RBPT, the result was taken as 1+ if the agglutination was observed after 4 min of mixing of serum and antigen, 2+ if the agglutination took place immediatly, and negative if there was no agglutination. In SAT, the titres of 1/80 or above were considered positive. The 2ME test was interpreted in relation to SAT and titre 1/40 or above were considered positive.

After slaughter the popliteal, prescapular and supramammary lymph nodes of the five serologically positive camels were collected. For isolation of *brucella* strains each lymph node was cultured on 2-3 serum dextrose agar plates with antibiotics and all plates were incubated at 37C in a carbon dioxide incubator for growth of *B.abortus* and in an ordinary incubator for *B.melitensis*. They were observed over 4 to 7 days for appearence of *brucella* colonies. Subcultures of *brucella* isolates were biotyped by using techniques described by Corbel *et al* (1978).

Results and Discussion

Out of the 258 serum samples from one-humped camels 5 cases 1.93% were serologically positive for brucellosis. Samples positve to RBPT were crossing checked by SAT and 2-MET. All the serologically positive camels were females in the age group of 5-7 years and had a past history of abortion. Of these, *B.melitensis* biotype 1 was isolated from lymph nodes of two camels (0.77%).

Brucellosis has been diagnosed in camels in many countries in the Middle East. In addition, there are many reports on *B.abortus* abortion in camels, but infection of camels with *B.melitensis* is rare (Zowghi & Ebadi 1988). In Iran, sheep and goats are the principal farm animals, and *B.melitensis* has spread in many areas of the country. Hence the occurrence of *B.melitnsis* in that camels is not surprising.

The percentage of serologically positive cases observed by us is significantly less than it reported by Zowghi & Ebadi (1988) in the camels of northern and repersented by Razmyar *et al* (1992) in the camels of eastern (4%) of Iran. This could be due to stable, non-mobile and better managed native camels population of Boushehr in comparison to eastern and northern regions, where a large number of camels from Afghanistan and Pakistan are regulalry mixing with the local stock. Ajmal *et al*

(1989) has reported the incidence of brucellosis in Pakistan camels to be 2.47%, but the incidence in Afghanistan is unknown. The incidence of brusellosis has reported in Libian camel by serological study was 3.76% (Faraj *et al* 1991), in Somalian camels by seroagglutination and complement fixation tests were 1.9% and 0.3%, respectively (Baumann & Zessin 1992) and in Sudanian camels was about 6.95% (Yagoub *et al* 1989).

Finally, for controlling of this infection, it is recommended that camel regional distribution can be screened by serological tests once a year. The movement of animals should be controlled. However, the control of disease among camels would be more successful if reactors slaughtered, and other animals such as cattle, sheep and goats vaccinated with S.19 and Rev.1 vaccines, respectively.

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