SHORT COMMUNICATION **Mirror of Research in Veterinary Sciences and Animals**
MRVSA/ Open Access DOAJ

Brucellosis in Camels (*Camelus dromedarius*) in "Iraq"

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ARTICLE INFO
Received: 20.06.2013
Revised: 20. 07.2013
Accepted: 10.08.2013
Publish online: 15. 08.2013

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Abstract

This short communication intends to focus on brucellosis which encounter and causes economic importance in the camel production in "Iraq".

To cite this article: Karima Al-Salihi (2013). Brucellosis in Camels (Camelus dromedarius) in "Iraq". Mirror of Research in Veterinary Sciences and animals. MRSVA 2 (3), 58-60. DOI: 10.22428/mrvsa. 2307-8073.2013. 00237.x

Keywords: *Camelus dromedarius*, Brucellosis. Economic importance, Iraq.

Camels produce milk although they are living in the harsh desert environmental conditions (Knoess, 1977; Abbas and Tilley, 1990, Schwartz, 1992).

There is a total of 58,000 camels in Iraq, according to the FAO statistics of 2011 (Tara, 2011). All Bedouin groups and communities in diverse ecozones throughout Iraq are depending on camels for their livelihood. This reliance consists of utilization of camel milk, meat, and leather and wool. In addition, camels have used as animals for packing, transport and riding.

Usually, Camels raise in the dry desert conditions. The severity of the desert conditions particularly during the long dry season put the camels under severe stress conditions and make them susceptible to many diseases and illness (Abbas *et al.*, 1993; Agab, 1993). Scarce of the studies on the camel disease in the past led some scientists to consider camels, as resistant to many disease-causing factors (Zaki, 1948; Dalling *et al.*, 1988). However, the camels have proved as other livestock, being susceptible, to the common disease-causing pathogens affecting other animal species (Wilson 1984; Abbas and Tilley, 1990; Abbas and Agab, 2002).

Brucellosis is an infectious disease caused by Gram negative coccobacilli of the genus *Brucella* which are facultative intracellular. They can survive within host cells causing a chronic disease that may

persist throughout the life time of the animal. It is affecting all domestic animals including camels. It is a serious zoonotic disease that transmit from animals to man and causes severe disease and effect on the public health all over the world (Radostits *et al*., 2007). Brucellosis in sheep, cattle, goats and other animals received a proper attention from researcher, scientists and government. However, camel brucellosis is still not well study. Early 1931, brucellosis reported in camels (Solonitsuin, 1949). Later on, disease has reported from all camel-keeping countries (Gwida *et al*., 2012). Raising camels with others animals such as sheep and goats is the main reason that make camel prone to *brucella* infection. Camels are not the primary hosts of *Brucella*, but they are susceptible to both *B. abortus and B. melitensis* (Cooper, 1991). Consequently, the prevalence depends upon the infection rate in primary hosts being in contact with them. Since *Brucella* species isolated from camels, consumption of milk and meat has led to a high number of human brucellosis cases accordingly, serious public health concern has aroused (Kiel and Khan, 1989). Most farmers from nomadic areas believe that camel milk is a healer for many diseases. They drink raw camel milk, and they do not believe that non-pasteurized milk can cause disease.

Only few studies have done regarding camel brucellosis in Iraq (Al-Ani *et al.,* 1998). One serological study using Rose Bengal test found that the percentage of positive animals was 6, 73% between 104 serum samples collected from different age groups of camels (Rodhan *et al.*, 2006) There are many difficulties that arise in diagnosis of camel brucellosis, because as this disease shows only few clinical signs in compare to its clinical appearance in cattle (Mousa *et al*., 1987). In addition, camel herds usually raise in a remote area synchronizes with missing infrastructure.

Camel brucellosis in Iraq needs more attention and research. Isolation of the causative agent is very necessary to diagnose the microorganism that camels are susceptible for in order to plan the proper vaccination program. Educational program and leaflet to aware the Bedouin about brucellosis risk disease will reduce the human infection percentage.

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