

Seroepidemiological study of Middle East Respiratory Syndrome (MERS) virus infection in Iraqi dromedary camels

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ABSTRACT

The main aim of this study was to investigate the presence of MERS-CoV antibodies in Iraqi camels, to assess the prevalence and interpret the results according to the epidemiological information. A total of 180 dromedary camel plasma samples from healthy animals of different sexes and ages were collected from the provinces Najaf, Muthanna and Basrah. All the camels appeared healthy on clinical examination. Blood plasma was analysed using the ELISA technique. A large proportion (153/180, 85%) of the dromedary camels sampled had antibodies to MERS-CoV. There was no significant difference in seropositivity to MERS-CoV according to the location and sex of the camels. The prevalence of antibodies was higher in camels less than 2 years old (39/44, 88.6%) than in camels aged 2-4 years; (47/58, 81%). In addition, the percentage of camels with antibodies was 85.9% (67 of 78) in camels older than four years. These results suggest that MERS-CoV is widespread in the camel populations throughout Iraq.

Key words: MERS-CoV; dromedary camels; ELISA; Iraq

Introduction

Coronaviruses, which belong to the enveloped RNA virus family Coronaviridae, are capable of causing disease in humans and animals. They consist of single-stranded positive-sense, nonsegmented genomes (CHAN et al., 2012). Middle East respiratory syndrome coronavirus (MERS-CoV) is a novel coronavirus which emerged (ZAKI et al., 2012) and spread from the Arabian Peninsula to 25 countries in Middle East, North Africa, Europe, United States and Southeast Asia. All cases have had an epidemiological

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