



Cross sectional study on the seroprevalence of brucellosis in sheep, goat and man in Diyala governorate

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Abstract

Animal and human brucellosis is still endemic in many countries of the Middle East including Iraq, in spite of high efforts conducted to control the disease in animals through vaccination campaigns. Serology is the most useful and widely used tool for the diagnosis of Brucellosis in man and animals. The study was conducted from September/ 2016 to June / 2017. A total of 163 serum samples were collected from

107 and 56 adult sheep and goats of different sexes, respectively. Animals were from flocks with a history of recent or previous reproductive problems. Moreover, 84 serum samples were collected from human patients referring to different health institutes in Baqubah city with clinical signs suggestive for brucellosis (23 men and 61 women "27 none aborted and 34 aborted"). All animal serum samples were subjected to the Rose Bengal plate test (RBT) and Competitive enzyme-linked immunosorbent assay (c-ELISA), while, RBT, Rapid slide agglutination test (RSAT) and Indirect (i) ELISA were applied for human serum samples. Positive samples were detected in different percentages in various areas of the study; 97 (59.5%) out of 163 animal samples were positive in c-ELISA. However, all goat samples were negative in RBT, while 7 (9.72%), 11 (47.82%) and 1 (8.33%) of none aborted, aborted ewes and rams, respectively were positive. Aborted ewes gave a statistically significant ($p < 0.05$) higher positive reaction than aborted ones using both tests, while none aborted does give higher percentage positivity than the aborted group using c-ELISA. Concerning sex; ewes showed higher seropositive reaction than rams, while sex wise significant differences were not detected in caprine. For human serum samples; 11 (13.09%), 13 (15.47%) and 9 (10.71) were positive in RBT, RSAT, and i-ELISA, respectively. Using RBT; 2 (7.40%), 5 (13.04%) and 4 (11.76%) of men, women and aborted women gave positive results, respectively. None aborted women yielded higher seropositivity than aborted ones. Using i-ELISA; women revealed significantly ($p < 0.05$) higher seropositivity than men. In conclusion, this study approved the detection of *Brucella* seropositive reactions in animals and human samples in different areas of Diyala Governorate. Variation in the ability of various serological tests to detect animal seropositive samples was also approved.

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