

Seroepidemiology of Q Fever among Companion Dogs in Fars Province, South of Iran

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Abstract : *Coxiella burnetii* is a gram-negative obligatory intracellular bacterium that causes Q fever, a significant zoonotic disease. Sheep, cattle, and goats are the most commonly reported reservoirs for the bacteria, but infected cats and dogs have also been implicated in the transmission of the disease to human. The aim of present study was to investigate the presence of antibodies against *Coxiella burnetii* among companion dogs in Fars province, South of Iran. A total of 181 blood samples were collected from asymptomatic dogs, mostly referred to Veterinary Hospital of Shiraz University for regular vaccination. The IgG antibody detection against *Coxiella burnetii* was made by indirect Enzyme-linked Immunosorbent Assay (ELISA), employing phase I and II *Coxiella burnetii* antigens. A logistic regression model was developed to analyze multiple risk factors associated with seropositivity. An overall seropositivity of 7.7% (n=14) was observed. Prevalence was significantly higher in adult dogs above five years (18.18 %) compared with dogs between 1 and five years (7.86 %) and less than one year (6.17%) (P=0.043). Prevalence was also higher in male dogs (11.21 %) than in female (2.7 %) (P=0.035). There were no significant differences in the prevalence of positive cases and breed, type of housing, type of food and exposure to other farm animals (P>0.05). The results of this study showed the presence of *Coxiella burnetii* infection among the companion dogs population in Fars province. To our knowledge, this is the first study regarding Q fever in dogs carried out in Iran. In areas like Iran, where human cases of Q fever are not common or remain unreported, the public health implications of Q fever seroprevalence in dogs are quite significant.

Keywords : *Coxiella burnetii*, dog, Iran, Q fever

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