

## **Prevalence of leptospirosis in healthy dogs and dogs with kidney disease in Klang Valley, Malaysia**

### **ABSTRACT**

Leptospirosis is under-reported and remarkably neglected in Malaysia, especially in companion animals. In recent years, dogs have become popular pets and potentially act as one of the risk factors for human leptospiral infection. The purpose of this study was to determine the serological and molecular status of leptospirosis in healthy and dogs with kidney disease in Klang Valley, Malaysia and to gain insight of the possible serovars involved in the dog population in Klang Valley, Malaysia. Blood samples were obtained from 57 dogs (19 kidney disease patient; 38 healthy dogs, respectively). Serum samples obtained from these animals were screened for leptospiral antibodies by the microscopic agglutination test (MAT). Polymerase chain reaction (PCR) assay was performed on plasma samples to detect leptospiral DNA. By MAT, three out of 19 (15.8%) dogs with kidney disease were positive for *L. canicola*. One out of 38 (2.6%) healthy dogs was positive for *L. icterohemorrhagiae*. The overall seroprevalence for leptospirosis in dogs in Klang Valley, Malaysia was 7.0% (n=4/57). Only one out of the 19 dogs (5.3%) with kidney disease was tested positive to pathogenic *Leptospira* by PCR assay. All the 38 healthy dogs were negative. Positive results in healthy dogs and dogs with kidney disease for leptospirosis warrant further investigation of leptospirosis in dog population in Malaysia. The prevalence and incidence of this disease in the dog population in this country need further investigation.

**Keyword:** Leptospirosis; Healthy dog; Dog; Kidney disease; Klang valley; Malaysia