

Serological and molecular identification of *Leptospira* spp . in swine and stray dogs from Malaysia

ABSTRACT

Leptospirosis is endemic in Malaysia with *Leptospira* species extensively isolated from domestic and wild animals. Rats were found to be the principal maintenance hosts followed by cattle, pigs, and dogs. The objectives of this study were to isolate and identify *Leptospira* serovars circulating among swine from three different farms and also from stray dogs and cats from Klang valley, Selangor, Malaysia. Urine and kidney samples collected from 150 stray dogs, 50 cats and 81 swine were inoculated into semi-solid Ellinghausen McCullough Johnson and Harris (EMJH) media supplemented with additional 5-Fluorouracil. Dark field microscopy revealed only one positive culture of *Leptospira* from dog and swine samples, but all cat samples were negative. The PCR technique using published primers detected 11 positives in urine samples of dogs and 5 positives from swine. The microscopic agglutination test (MAT) confirmed the presence of two serovars in both dog and swine populations namely, *L. interrogans* serovar Canicola and *L. interrogans* serovar Pomona (MAT > 100), with Not I-PFGE analyses separating these two serovars into distinct profiles. Despite the low prevalence in stray dogs, the latter may play an important role in the contamination of the environment. Swine can also pose a potential risk of infection to humans and other domestic animals, especially those living close to swine farms. Thus improving hygiene and eradication of rodents in swine farms are likely to reduce the risk of infection.

Keyword: Leptospirosis; *Leptospira* serovars; Swine; Stray dogs; Malaysia

