

ABSTRAK

IDENTIFIKASI SEROVAR PENYEBAB LEPTOSPIROSIS PADA KUCING DI KABUPATEN SLEMAN MENGGUNAKAN *MICROSCOPIC AGGLUTINATION TEST*

Aulia Arifa Abdan
22/500641/KH/11320

Bakteri *Leptospira* patogen merupakan penyebab leptospirosis yang bersifat zoonosis, dan mampu menginfeksi hampir semua spesies mamalia termasuk kucing domestik (*Felis catus*). Kucing dapat berperan sebagai inang insidental sekaligus sumber kontaminasi yang menyebarkan bakteri meskipun umumnya tidak menunjukkan gejala klinis yang spesifik. Berbagai metode digunakan dalam mendeteksi leptospirosis, salah satunya adalah *Microscopic Agglutination Test* (MAT). Penelitian ini bertujuan untuk mengidentifikasi serovar penyebab leptospirosis pada kucing di Kabupaten Sleman, dengan menggunakan metode MAT. Pada penelitian ini digunakan 116 ekor kucing di wilayah Kabupaten Sleman, Daerah Istimewa Yogyakarta. Jumlah sampel ditentukan berdasarkan perhitungan menggunakan rumus proporsi $4PQ/L^2$ dengan estimasi prevalensi (P) sebesar 3%, nilai presisi (L) sebesar 0,05, dan penambahan faktor koreksi sebesar tiga kali lipat. Seluruh kucing diambil sampel darahnya sebanyak ± 3 ml, selanjutnya darah disentrifus dan serum dipisahkan. Pemeriksaan MAT menggunakan serum sampel dilakukan di Balai Perakitan dan Modernisasi Veteriner, Bogor. *Microscopic Agglutination Test* dilakukan terhadap 14 panel serovar antigen hidup *Leptospira*, diantaranya *Bataviae*, *Tarassovi*, *Ballum*, *Canicola*, *Pomona*, *Javanica*, *Celledoni*, *Icterohaemorrhagiae*, *Hardjo*, *Cynopteri*, *Pyrogenes*, *Rachmati*, *Australis*, dan *Grippotyphosa* dengan ketetapan *cut-off* titer ≥ 100 . Hasil pemeriksaan menunjukkan 12 dari 116 kucing (10,34%) dinyatakan seropositif terhadap *Leptospira*. Sepuluh dari 12 kucing (83,33%) positif serovar *Bataviae*, 1 dari 12 (8,33%) kucing positif serovar *Ballum*, dan 1 dari 12 (8,33%) kucing positif serovar *Icterohaemorrhagiae* (8,33%). Titer antibodi serovar *Bataviae* 1/100-1/1600, serovar *Ballum* dan serovar *Icterohaemorrhagiae* masing-masing ditemukan pada satu sampel dengan titer 1/100. Dari hasil penelitian ini dapat disimpulkan bahwa ada paparan *Leptospira* patogen pada kucing domestik di Kabupaten Sleman dengan seroprevalensi sebesar 10,34%. Titer dominasi yang cukup tinggi yaitu 1/1600 terjadi pada 9 dari 12 (75%) kucing positif leptospirosis. *Microscopic Agglutination Test* merupakan metode deteksi yang efektif dalam melakukan identifikasi serovar penyebab leptospirosis pada kucing.

Kata kunci: Leptospirosis, Serovar, *Leptospira*, Kucing, MAT

ABSTRACT

IDENTIFICATION OF LEPTOSPIROSIS-CAUSING SEROVARs IN CATS IN SLEMAN REGENCY USING THE MICROSCOPIC AGGLUTINATION TEST

Aulia Arifa Abdan
22/500641/KH/11320

Pathogenic *Leptospira* bacteria are the cause of leptospirosis, a zoonotic disease, and are capable of infecting nearly all mammalian species, including domestic cats (*Felis catus*). Cats can serve as both incidental hosts and sources of contamination that spread the bacteria, even though they generally do not exhibit specific clinical symptoms. Various methods are used to detect leptospirosis, one of which is the Microscopic Agglutination Test (MAT). This study aimed to identify the serovars causing leptospirosis in cats in Sleman Regency using the MAT method. This study involved 116 cats in Sleman Regency, Special Region of Yogyakarta. The sample size was calculated using the proportion formula $4PQ/L^2$, assuming an estimated prevalence (P) of 3% and a precision value (L) of 0.05, with a threefold correction factor incorporated. Blood samples of approximately 3 ml were collected from all cats; the blood was then centrifuged, and the serum was separated. MAT testing using the serum samples was conducted at the Veterinary Research and Modernization Center in Bogor. The Microscopic Agglutination Test was performed using 14 panels of live *Leptospira* serovar antigens, including Bataviae, Tarassovi, Ballum, Canicola, Pomona, Javanica, Celledoni, Icterohaemorrhagiae, Hardjo, Cynopteri, Pyrogenes, Rachmati, Australis, and Grippotyphosa, with a cut-off titer of ≥ 100 . The results showed that 12 out of 116 cats (10.34%) were seropositive for *Leptospira*. Ten of the 12 cats (83.33%) were positive for the Bataviae serovar, 1 of 12 (8.33%) cats was positive for the Ballum serovar, and 1 of 12 (8.33%) cats was positive for the Icterohaemorrhagiae serovar (8.33%). Antibody titers for serovar Bataviae ranged from 1/100 to 1/1600; serovar Ballum and serovar Icterohaemorrhagiae were each detected in one sample with a titer of 1/100. Based on these findings, it can be concluded that there is exposure to pathogenic *Leptospira* among domestic cats in Sleman Regency, with a seroprevalence of 10.34%. A relatively high dominant titer of 1/1600 was observed in 9 out of 12 (75%) leptospirosis-positive cats. The Microscopic Agglutination Test (MAT) is an effective detection method for identifying the serovars causing leptospirosis in cats.

Keywords: Leptospirosis, Serovar, *Leptospira*, Cats, MAT