

ABSTRAK

GAMBARAN KLINIS DAN EVALUASI FUNGSI GINJAL PADA KUCING SEROPOSITIF LEPTOSPIROSIS DI KABUPATEN SLEMAN

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Leptospirosis merupakan penyakit zoonotik yang menyerang manusia dan berbagai mamalia, termasuk kucing. Infeksi *Leptospira* dapat menyebabkan kerusakan pada berbagai organ target, terutama ginjal, hati, paru-paru, otak, dan mata. Penelitian ini bertujuan untuk mengetahui gejala klinis dan mengevaluasi gangguan fungsi ginjal berdasarkan pemeriksaan kimia darah pada kucing seropositif leptospirosis di Kabupaten Sleman. Sebanyak 116 ekor kucing yang ditentukan berdasarkan rumus Martin 4PQ/L² dengan asumsi prevalensi 3% dan tingkat ketelitian 5% diperiksa secara klinis dan diambil darahnya sebanyak 3 mL melalui *vena cephalica* atau *vena jugularis*. Serum digunakan untuk uji *Microscopic Agglutination Test* (MAT) dan kimia darah. Uji MAT dilakukan terhadap 14 serovar *Leptospira*, yaitu *Icterohaemorrhagiae*, *Celledoni*, *Javanica*, *Ballum*, *Canicola*, *Cynopteri*, *Pyrogenes*, *Australis*, *Rachmati*, *Grippotyphosa*, *Pomona*, *Bataviae*, *Hardjo*, dan *Tarasovi*, dengan *cut-off* seropositif $\geq 1/100$. Uji kimia darah meliputi *Blood Urea Nitrogen* (BUN), kreatinin, kadar total protein plasma (TPP), rasio albumin/globulin (A/G) menggunakan *biochemistry analyzer* (Seamaty), serta *Symmetric Dimethylarginine* (SDMA) menggunakan alat Flashtest. Hasil MAT menunjukkan 12 dari 116 sampel kucing (10,34%) terdeteksi seropositif leptospirosis. Sepuluh (83,33%) sampel positif terhadap serovar *Bataviae*, sedangkan masing-masing satu sampel (8,33%) positif terhadap serovar *Ballum* dan *Icterohaemorrhagiae*. Sebanyak 58,33% (7/12) kucing seropositif tidak menunjukkan gejala klinis, sedangkan 41,67% (5/12) menunjukkan gejala tidak spesifik seperti demam, ikterik, dispnea, muntah, diare, anoreksia, dan leleran hidung. Berdasarkan nilai BUN, kreatinin, dan SDMA, sebanyak 91,67% (11/12) kucing seropositif tidak mengalami gangguan fungsi ginjal, sedangkan **satu** kucing (8,33%) yang menderita *Feline Infectious Peritonitis* (FIP) mengalami gangguan fungsi ginjal. Peningkatan kadar TPP ditemukan pada 75% (9/12) sampel, dan penurunan rasio A/G pada 41,67% (5/12) sampel. Dari penelitian ini dapat disimpulkan bahwa kucing positif leptospirosis sebagian besar tidak menunjukkan gejala klinis, dan gejala yang muncul bersifat tidak spesifik. Gangguan fungsi ginjal tidak terdeteksi pada kucing seropositif leptospirosis, namun terdeteksi pada kucing seropositif leptospirosis yang mengalami FIP.

Kata kunci: fungsi ginjal, kucing, leptospirosis, parameter ginjal, SDMA

ABSTRACT

CLINICAL FINDINGS AND EVALUATION OF RENAL FUNCTION IN SEROPOSITIVE CATS WITH LEPTOSPIROSIS IN SLEMAN REGENCY

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Leptospirosis is a zoonotic disease that affects humans and various mammalian species, including cats. *Leptospira* infection can cause damage to several target organs, particularly the kidneys, liver, lungs, brain, and eyes. This study aimed to identify the clinical manifestations and evaluate renal dysfunction based on blood biochemical parameters in seropositive cats with leptospirosis in Sleman Regency. A total of 116 cats, determined using the Martin formula $4PQ/L^2$ with an assumed prevalence of 3% and a precision level of 5%, underwent clinical examination, and 3 mL of blood was collected from the cephalic or jugular vein. Serum samples were used for the *Microscopic Agglutination Test* (MAT) and blood biochemical analysis. The MAT was performed using 14 *Leptospira* serovars, namely Icterohaemorrhagiae, Celledoni, Javanica, Ballum, Canicola, Cynopteri, Pyrogenes, Australis, Rachmati, Grippotyphosa, Pomona, Bataviae, Hardjo, and Tarasovi, with a seropositive cut-off titer of $\geq 1/100$. Blood biochemical analysis included Blood Urea Nitrogen (BUN), creatinine, total plasma protein (TPP), and albumin/globulin (A/G) ratio using a biochemistry analyzer (Seamaty), as well as Symmetric Dimethylarginine (SDMA) using a Flashtest analyzer. The MAT results showed that 12 of 116 cat samples (10.34%) were seropositive for leptospirosis. Ten (83.33%) samples were positive for the Bataviae serovar, while one sample each (8.33%) was positive for the Ballum and Icterohaemorrhagiae serovars. Among the seropositive cats, 58.33% (7/12) showed no clinical signs, whereas 41.67% (5/12) exhibited nonspecific clinical signs, including fever, jaundice, dyspnea, vomiting, diarrhea, anorexia, and nasal discharge. Based on BUN, creatinine, and SDMA values, 91.67% (11/12) of the seropositive cats showed no evidence of renal dysfunction, whereas one cat (8.33%) diagnosed with *Feline Infectious Peritonitis* (FIP) exhibited renal dysfunction. Increased TPP levels were observed in 75% (9/12) of the samples, while a decreased A/G ratio was found in 41.67% (5/12) of the samples. In conclusion, most cats seropositive for leptospirosis showed no clinical signs, and the clinical signs observed were nonspecific. Renal dysfunction was not detected in seropositive cats with leptospirosis, except in one seropositive cat concurrently diagnosed with Feline Infectious Peritonitis (FIP).

Keywords: cats, kidney function, kidney parameters, leptospirosis, SDMA.