

HEMATOLOGICAL, HEMOSTATIC, AND THROMBOELASTOMETRIC ABNORMALITIES IN DOGS WITH LEPTOSPIROSIS

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Introduction: The objectives of this study were to assess the prevalence of hematological, hemostatic, and thromboelastometric (TEM) abnormalities in dogs with leptospirosis.

Methods: A prospective observational study was conducted. Results of complete blood count, classic coagulation tests and TEM were recorded at admission. Dogs were diagnosed with leptospirosis according to the results of micro-agglutination test or blood or urine PCR. Dogs were categorized as DIC positive if at least 3 of the following criteria were present: thrombocytopenia, prolonged prothrombin time, activated partial thromboplastin time or thrombin time, hypofibrinogenemia, and increased fibrin(ogen) degradation products or D-dimer concentrations. Conventional statistical analyzes were used.

Results: Between January 2013 and June 2015, 35 dogs were enrolled. The median age was 5y. Twenty-six were male. The mortality rate was 37%. Eight dogs presented sole or associated bleeding diatheses. The most common hematological and hemostatic abnormalities were anemia (30/35), thrombocytopenia (21/35), and hyperfibrinogenemia (15/35). Eight dogs were diagnosed with DIC. A normal TEM profile was found in 14 dogs, a hypercoagulable profile in 14 dogs, and a hypocoagulable profile in 7 dogs.

The 8 dogs with bleeding diathesis had significantly decreased platelet count ($P=0.037$), and increased D-dimers concentration ($P=0.015$). Five of them presented a hypocoagulable profile, 2/8 a normal profile and 1/8 a hypercoagulable profile. Among the 8 dogs with DIC, 6/8 exhibited a hypocoagulable profile and 2/8 a normal profile. DIC was not associated with outcome ($P=0.433$). On exTEM, MCF ($P=.035$) and G ($P=0.037$) were significantly increased in the survivors, while CT on fibTEM ($P=0.045$) was significantly decreased. Mortality rate was lower in dogs with hypercoagulables profile compared to those with hypocoagulable and normal profiles (21% vs 48%; $P=0.046$).

Conclusions: Anemia and thrombocytopenia are very common features in canine leptospirosis. DIC occurs in more than one fifth of cases but is not associated with outcome.

Winner of the best oral presentation

**RETROSPECTIVE STUDY OF 39 CRITICALLY-ILL DOGS WITH ACUTE KIDNEY INJURY
REQUIRING RENAL REPLACEMENT THERAPY (2012-2015)**

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Objective: To describe population characteristics, etiologies, renal replacement therapy (RRT) procedure and outcomes of dogs with acute kidney injury (AKI). To identify variables associated with survival.

Methods: Retrospective study on 39 dogs. Inclusion criteria were AKI dogs receiving at least one extra-corporeal RRT session between 2012 and 2015. A hemodiafiltration mode was used with ultrafiltration settings based on fluid status. DeltaCreat/h, defined as the difference between serum creatinine after RRT session N and before RRT session N+1 divided by time (in hours) between sessions, was calculated. Patients were divided in between survivor or non-survivor and leptospirosis or non-leptospirosis-related AKI. Mann-Whitney U tests were used to compare groups. Odds ratio (OR) for correlation with outcome were determined by a forward stepwise regression. Significance was set at 0.05.

Results: Sixty-seven percent of dogs were males. Median (range) age and BW were 4.4 years (0.25-15) and 26.6 kg (6.7-69) respectively. Median hospitalization time and number of RRT sessions were 8 days (1-23) and 3 (1-8) respectively. Leptospirosis infection was the main cause of AKI (74.4%), followed by nephrotoxins (15.3%). Mortality rate was 47%. At discharge, median creatinine was 200 μ mol/L and 55% of survivors have no to mild azotemia (creatinine \leq 240 μ mol/L). Age (4 vs. 5.4 years; $P = 0.04$), UOP at admission (0.5 vs. 0mL/kg/h; $P = 0.01$), UOP during hospitalization ($P < 0.003$), and hospitalization time (10 vs 4 days; $P < 0.0001$) were different between survivors and non survivors. In-hospital mortality was correlated with the number of RRT sessions (OR=5.1), serum potassium (OR=1.9), DeltaCreat/h (OR=1.2), length of hospitalization (OR=0.4) and UOP during hospitalization (OR=0.2).

Conclusions: Most of our patients were male dogs with leptospirosis-associated AKI. Variables correlated with survival were identified in our patient population. Their application to other population is unknown.

SYSTEMIC HYPERTENSION IN CATS WITH ACUTE KIDNEY INJURY

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Introduction: Systemic hypertension (SH) is reported in canine and feline patients with chronic kidney disease (CKD) and is also described in canine acute kidney injury (AKI). However, the prevalence of SH in feline AKI patients is unknown. The aims of this retrospective study were to describe the prevalence of SH in cats with AKI and investigate its relationship with disease severity.

Methods: A search of the computerised records of the Queen Mother Hospital for Animals was performed for cats presenting with AKI between 2007 and 2015. Patients were excluded if they had other diseases associated with SH (including CKD), pre-treatment with anti-hypertensive drugs or if there were fewer than two systolic blood pressure (SBP) readings within the patients' records. SH was defined as SBP >150mmHg. A median SBP measurement on each day of hospitalisation was recorded as well as the IRIS (International Renal Interest Society) stage of AKI and creatinine on admission, the presence of anuria or oligouria, length of hospitalisation, survival to discharge and 6-month survival. The prevalence of SH was calculated and the relationship between SH and the recorded factors was examined using parametric and non-parametric statistics.

Results: Forty-six cats were eligible for inclusion. The prevalence of SH on admission was 48.8% (21/43) and this was severe (>180mmHg) in 18.6% (8/43) of cases. Over the whole hospitalisation period prevalence of SH was 58.7% (27/46) being severe in 26.1% (12/46) cases. There was no statistically significant relationship between the occurrence of SH and IRIS AKI grade, creatinine on presentation, oliguria or anuria, survival to discharge or 6 months. Cats with SH had a statistically longer hospitalisation length ($P<0.05$).

Conclusions: SH is common in feline AKI patients. Its occurrence does not appear to be associated with severity of injury nor outcome but may be associated with prolonged hospitalisation.