

affected compared to healthy dogs. As shown in an experimental study performed in mice, a significant decreased expression of miR-122-5p was seen in leishmania infected dogs compared with healthy ones.

This study suggests that alterations of circulating lipoproteins associated with a low expression of exosomal miR-122 indicate a liver dysfunction in dogs naturally affected by *Leishmania infantum*.

## Disclosures

No disclosures to report.

## ESVIM-P-8

### Anemia and hypoferrremia in cats with hepato-pancreatic and intestinal involvement

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In veterinary medicine, although red blood cells (RBC) and iron serum levels seem to be influenced by inflammation, specific investigations regarding red blood cell parameters and iron serum levels in enteropathic cats are lacking.

The aim of this study was to investigate which type of anemia and how are the serum iron levels in cats with hepato-pancreatic and intestinal involvement.

A retrospective review was conducted on ten-year medical records of cats presented to the University Veterinary Teaching Hospital, looking for ultrasonographic signs of concurrent inflammation of at least two organs among liver, pancreas and intestine. Cats were included if information about clinical signs and laboratory tests (CBC and serum iron level) were available.

Sixty-three cats met the inclusion criteria and were enrolled in the study. Patients were divided into two groups according to ultrasonographic signs: cats with concurrent involvement of pancreas, liver and intestine (Group A, n = 19) and cats with concurrent involvement of only two organs between pancreas, liver and intestine (Group B, n = 44). Differences between groups were statistically investigated by Mann-Whitney test for iron, and Unpaired t-test for anemia parameters. Categorical data were analyzed with Fisher's exact test.

Twenty-nine cats (46%) showed anemia which was more frequently mild (Hct < 26%; 62.1%) or moderate (13% < Hct < 19%; 31%), normocytic-normochromic (72.4%), and non-regenerative (86.2%). Microcytosis was an infrequent finding (6.3%), and only two cats had microcytosis, anemia and hypoferrremia concurrently. Hypoferrremia (serum iron <90 mcg/dL) was present in 34 cats and concurrent anemia was observed in 15 cats (without any association between these two parameters). Both hypoferrremia and anemia were more severe in group A (median serum iron 60 mcg/dL; mean RBC 6.06 M/ $\mu$ L;  $P = 0.0321$ ) than group B (median serum iron 90.5 mcg/dL; mean RBC 7.00 M/ $\mu$ L). Moreover, anemia was more frequently present in group A (63%;  $P = 0.0321$ ). A ROC curve was used to determine the optimal cut-off of serum iron to identify cats with hepato-pancreatic and intestinal involvement. Cats with serum iron lower than 61.5 mcg/dL were more frequently belonging to group A (sensitivity 82.2%; specificity 52.6%;  $P = 0.0048$ ).

The most plausible hypothesis for the origin of anemia was the presence of a chronic disease. Decreased serum iron levels may be considered as a marker of inflammation in enteropathic cats. Hepato-pancreatic and intestinal inflammation may cause more severe hypoferrremia, erythropoiesis suppression, and anemia.

## Disclosures

No disclosures to report.

## ESVIM-P-10

### Lung ultrasound findings in dogs using a regionally based protocol (Vet BLUE) versus entire thorax scanning

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Lung ultrasound (LUS) can be used to detect comet-tail artifacts (B lines) in animals with trauma, pulmonary edema or alveolar-interstitial syndrome. The scanning protocols used in previous studies include four anatomic sites on each hemithorax (Vet BLUE) and scanning for all intercostal spaces. The regionally based protocol has the advantage of quickly assessing critically ill patients in respiratory distress; however, it is unclear how the results from Vet BLUE protocol correlate with the findings from entire thorax scanning (ETS). The present study aimed to compare the frequency and numbers of B lines, as well as other parenchymal abnormalities, between the Vet BLUE and ETS protocols. We hypothesized that B lines would be more frequently detected by ETS but not significantly affect the final conclusion.

Thirty-four dogs with various clinical problems (16 with cardiac disease, 12 with cardiorespiratory comorbidities, 5 with respiratory disease, and 1 with non-cardiorespiratory problem) were recruited in this prospective study. Dogs that were uncooperative or too critically ill to tolerate the two scanning protocols were excluded. All scans were performed by a single clinician who had completed an LUS training session. The thorax of each dog was first scanned by the Vet BLUE protocol and then by ETS without hair clipping.

Compared with the Vet BLUE protocol, B lines were significantly more frequent in ETS (26.5% vs. 50.0%,  $P = 0.004$ ). Assessment of the severity of B lines (absent, rare, numerous, or confluent) showed more severity in ETS than that of B lines by the Vet BLUE protocol ( $P < 0.001$ ). Nevertheless, when a final conclusion was drawn based on  $\geq 2$  positive sites ( $> 3$  B lines) per hemithorax as used in the previous studies, the final conclusions of the two protocols were not significantly different ( $P = 0.25$ ), and agreement between the two protocols was substantial ( $\kappa = 0.72$ ). The detection of other parenchymal lesions by the two protocols was not significantly different ( $P = 0.5$ ).

In conclusion, these results suggest that LUS findings from the Vet BLUE protocol substantially agree with those from ETS. However, it should be brought in mind that the most severe lesions on LUS may be underestimated using a regionally based protocol.

## Disclosures

Disclosures to report.