Evaluation of three commercially available point-of-care monitors for assessment of blood lactate concentration in dogs

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OBJECTIVES

To determine if canine blood lactate values measured using 3 commercially available point-of-care analysers are in agreement with values obtained using a validated gold standard reference laboratory method.

METHODS

A clinical research study was performed in a referral hospital to evaluate 3 point-of-care monitors (Roche Accutrend Plus®, Woodley Lactate Xpress®, and Woodley

The EDGE®) in comparison to the gold standard reference laboratory analyser (IDEXX Catalyst Dx®). Lithium heparin tubes were used to collect 102 blood samples from 83 dogs and 3 cats. A single operator immediately measured blood lactate concentrations of each sample using all 4 lactate analysers.

RESULTS

Comparisons were made between lactate measurements from the 3 point-of-care monitors and the laboratory analyser using correlation plots and the Bland-Altman method. In this population, comparison of the gold standard IDEXX Catalyst Dx with the Roche Accutrend Plus, Woodley Lactate Xpress, and Woodley The EDGE yielded biases of -0.08 , -0.23 , and -0.48 mmol/L, respectively. Measurements using the Roche Accutrend Plus showed the strongest agreement with the gold standard. While the Woodley Lactate Xpress and Woodley The EDGE showed slightly weaker agreement, all 3 point-of-care monitors are suitable for measurement of lactate in dogs.

STATEMENT

There has been increasing interest in the assessment of blood lactate as both a diagnostic and prognostic tool in veterinary medicine. The results of this project positively impact cage-side care of critical patients with the use of validated point-of-care lactate monitors that are in agreement with the gold standard.

A case series of feline and canine chyloabdomen

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OBJECTIVES

To describe the clinical presentation, clinicopathological findings and outcome in feline and canine chyloabdomen cases.

METHODS

Retrospective study of 17 cats and 16 dogs. Data is presented as mean ($\pm$ standard deviation) or median (range).

RESULTS

For the feline cohort, median age was 104 months (61–263). The most frequently documented clinical signs were inappetence (58.8%) and lethargy (41.2%). On physical examination, 58.8% were ascitic, 29.4% were dyspnoeic. 58.8% had concurrent chylothorax. Lymphopenia and neutrophilia were noted in 76.5% and 41.2% respectively. Mean fluid triglyceride was 22.5g/L ($\pm$ 4.5) and serum triglyceride was 1.54g/L ($\pm$ 0.38). Final diagnoses were neoplasia (5), cardiac disease (4), inflammatory (4), and idiopathic (4).

For the canine cohort, median age was 63.5 months (3–151). The most frequently documented clinical signs were inappetence (31.3%) and weight loss (18.8%). On physical examination, 37.5% were ascitic, 25% were dyspnoeic. 37.5% had concurrent chylothorax. Lymphopenia and neutrophilia and were noted in 43.8% and 37.5% respectively. Mean fluid triglyceride was 16.4g/L ($\pm$ 5.06) and serum triglyceride was 1.34g/L ($\pm$ 0.32). Final diagnoses were inflammatory (7), idiopathic (5) cardiac disease (2) and neoplasia (2).

Treatment varied but usually included rutin, low fat diet, immunosuppressants and antibiotics. Fifteen cats

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Oral presentations

and 12 dogs died. The final diagnosis for the feline survivors was idiopathic chyloabdomen (1) and post chylothorax surgery (1) and for dogs was idiopathic chyloabdomen (2), inflammatory enteropathy (1) and cardiac disease (1).

STATEMENT

This is the largest case study describing chyloabdomen. Chyloabdomen has a variety of causes, and has a poor prognosis.

Is there a difference in pain-related behaviours between tortoises receiving different analgesic protocols?

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OBJECTIVES

- To compare the differences between giving a NSAID, or a combination of both a NSAID and an opioid, on improving pain-related behaviours in tortoises

METHODS

As an observational study at a veterinary hospital, tortoises indicated to receive either an opioid or NSAID as analgesic treatment by a veterinary surgeon were monitored for pain-related behaviours over time. The author monitored pre- and post-pain-related behaviours

after drug administration, at intervals of 6, 12 and 24 hours.

These behaviours included feeding, activity levels, whether the eyes were open or closed, neck extension, responsiveness, and limb withdrawal. Chi-squared was used to look for significant differences, at $P \leq 0.05$.

RESULTS

70% ($n=28$) of tortoises received only meloxicam as analgesia, and 30% ($n=12$) received both meloxicam and tramadol. There was a significant difference between feeding and drug administration pre-treatment and 6 hours.

post treatment ($P=0.021$ and $P=0.023$ respectively). There was no significant difference in any of the other pain-related behaviours between tortoises receiving NSAIDs and a combination of both NSAID and opioid drugs.

($P>0.05$), pre-treatment and at 6, 12 and 24 hours post treatment. Higher decreases in pain-related behaviour were however observed in those tortoises that received both drugs, compared to those that received only meloxicam.

STATEMENT

The research emphasises the current lack of understanding of pain and pain-related behaviour in tortoises in veterinary practice. There is a continued need for further larger-scale randomised controlled studies to determine whether meloxicam or tramadol alone, or a combination of both is more efficacious in tortoises.

The use of an omental pedicle to manage focal encephalitis in a cat

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OBJECTIVES

The aim of the study was to present a surgery case for treating encephalitis.

METHODS

An 11-year-old female cat, DSH presented with a three-week history of sudden blindness and circling. Neurological examination revealed reduced pupillary light in the left eye and menace response in the right eye. MR-scans of the skull were performed which revealed a high T2W signal area within the subdermal tissues, which extended into the left temporal lobes. FeLV/FIV an testing was negative, while CSF examination was normal. Over the first 24 h, the cat was stabilized with supportive care, including mannitol and intravenous antibiotics. The following day, repeat neurological examination showed no changes and exploratory craniotomy was done. Anticipating the use of omentum, a standard, inverted 'L' pedicle of the dorsal leaf of the greater omentum was raised via a midline celiotomy. The pedicle was exited through a left paracostal incision and the abdomen was closed. The omental pedicle was tacked lightly into position over the parietal. Finally, tissue was submitted for histopathology;