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