The stability of NT-proBNP in feline urine

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OBJECTIVE

To determine the stability of feline urinary amino terminal pro B-type natriuretic peptide (NT-pro BNP) at room temperature over a time period of 72 hours.

METHODS

Urine samples were collected from three cats diagnosed with cardiac disease at the Queen Mother Hospital for Animals. The samples were frozen at -25°C prior to testing. Aliquots of urine were then removed from the freezer and kept at room temperature (between $17-22^{\circ}\text{C}$) for variable time periods (0, 6, 12, 24, 48 and 72 hours). Amino terminal pro B-type natriuretic peptide concentrations for each sample at each time point were measured at a commercial laboratory (IDEXX Laboratories) using a feline specific sandwich enzyme-linked immunosorbent assay (ELISA). Urinary NT-pro BNP concentrations for each of the time periods were then compared with the Friedman

test using a commercially available software programme (IBM SPSS Statistics 21) to investigate whether there was a statistical difference in the concentration of urinary NT-pro BNP over 72 hours. This study was approved by the ethics and welfare committee at the Royal Veterinary College and informed owner consent was obtained.

RESULTS

There was no statistically significant difference in the concentration of urinary NT-pro BNP at any time point ($p=0.101$).

CONCLUSIONS

Leaving feline urine samples at room temperature for up to 72 hours does not have a significant effect on the concentration of NT-pro BNP.

CLINICAL RELEVANCE

Urinary NT-proBNP concentration appears to remain stable over a time course equivalent to postal transportation of laboratory samples. Therefore, if feline urinary NT-proBNP is found to be a useful biomarker its stability at room temperature allows for simple transportation to a laboratory for analysis. Further work is required to confirm the stability of the cardiac biomarker in urine in a larger cat population in order to enhance the validity of these findings.

Feline meningoencephalomyelitis of unknown aetiology (FMUA): a retrospective analysis of 14 cases

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BACKGROUND

Meningoencephalomyelitis of unknown aetiology (MUA) describes central nervous system inflammation without an identifiable infectious cause or histopathological diagnosis. While canine MUA is well reported, there are few reports of feline MUA, and treatment protocols and prognostic information are lacking.

OBJECTIVES

To describe the signalment, clinical signs, magnetic resonance (MR) findings, ancillary diagnostic tests, cerebrospinal fluid (CSF) analysis, treatment and outcome of FMUA.

METHODS

Medical records of cats (2008–2014) that met a strict inclusion

criteria of cerebrospinal fluid (CSF) pleocytosis, negative CSF realtime-PCR infectious disease results and characteristic MR, were retrospectively reviewed.

RESULTS

Fourteen cats were included. Mean age was 4.8 years (10 months–12 years). No sex or breed predilection existed. Common clinical signs included altered mental status (36%, 5/14), lethargy (29%, 4/14), generalised or partial seizures (29%, 4/14), pyrexia (21%, 3/14), nystagmus (21%, 3/14), hindlimb ataxia (21%, 3/14), paraparesis (21%, 3/14) and tetraparesis (14%, 2/14). Neuroanatomical localisation was multifocal in 50% (7/14), central in 14% (2/14), T3–L3 in 21% (3/14), C6–T2 in 7% (1/14) and L4–S2 in 7% (1/14) of cases. Leucocytosis was the most common abnormality on ancillary diagnostic testing (36%, 5/14). CSF nucleated cell count was <80 cells/ μL in 71% (10/14) of cats (median 38.5, 6–344); pleocytosis was mainly mixed (36%, 5/14), but was neutrophilic in 21% (3/14), lymphocytic in 21% (3/14), mononuclear in 14% (2/14), and eosinophilic in 7% (1/14) of cases. CSF protein was elevated in 83% (10/12) of cases (median 0.495g/L, 0.21–22.25).

MR of all cats showed single or multiple intraparenchymal lesions that were hyperintense on T2W and FLAIR sequences. Other findings included meningeal contrast enhancement (29%, 4/14) and mild cerebellar herniation (14%, 2/14). All cats were treated with a corticosteroid-based protocol (dexamethasone (71%, 10/14) or prednisolone (29%, 4/14)); additional therapies included lomustine (29%, 4/14), cytarabine

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(21%, 3/14), and anti-epileptics (29%, 4/14). Mean duration of hospitalisation was 7.4 days (3–12). All cats survived to discharge. 50% (5/10) of cats presented for re-examination showed persistent, but mild, neurological signs. One cat (7%) relapsed following therapy withdrawal.

CONCLUSION

FMUA is an important differential diagnosis of variable neurological signs in cats of any age. The use of MR as a diagnostic tool alongside CSF pleocytosis is highlighted. Prognosis is generally good with immunomodulatory and supportive therapy. More studies are indicated to better understand the aetiology of and optimum treatment for this condition.

Weight loss with a good or increased appetite as a presenting complaint in a feline population: a retrospective study

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INTRODUCTION

Weight loss with a good or increased appetite is considered a common presenting complaint occurring in various systemic disorders. The aim of this study was to determine the prevalence of this particular symptom as presenting complaint among the cats admitted to a University Teaching Hospital and to investigate the most commonly affected body systems and underlying diseases.

MATERIALS AND METHODS

The medical records of cats admitted between 1998 and 2014, due to weight loss with a good or increased appetite were collected. Cats that received appetite stimulants, glucocorticoids or had incomplete medical record were excluded from the study. Data regarding medical history, complete blood count, serum biochemical analysis, serum thyroxine concentration, urinalysis, diagnostic imaging, endoscopy and histopathology findings were recorded.

RESULTS

From a total of 2015 cats admitted during the study period, 61 presented weight loss with a good or increased appetite. Forty eight cats met the inclusion criteria. Nine cats were intact males (19.1%), 19 neutered males (40.4%), 3 intact females (6.4%) and 16 spayed females (34%). DSH (40/48, 83.3%) was the most common breed presented. Mean age on admission was 10.6 years (± 5.2). Most of the cats were classified in senior age group (11–14 years, 39.6%). Median duration of symptoms was 2.5 months (range: 0.5–60). Common presenting complaints were weight loss with a good (34/48, 70.8%) or increased appetite (14/48, 29.2%), chronic vomiting (11/48, 22.9%), polyuria/polydipsia (7/48, 14.6%) and diarrhea (5/48, 10.4%). Frequent physical examination findings were peridental disease (6/48, 12.5%), thickened intestinal loops (5/48, 10.4%), heart murmur (5/48, 10.4%), enlarged mesenteric lymph nodes (5/48, 10.4%), goiter (4/48, 8.3%), ascites (4/48, 8.3%) and dyspnea (4/48, 8.3%).

Clinicopathological abnormalities included, hypoalbuminemia (16/39, 41%), azotemia (16/43, 37.2%), hyperglycemia (14/39, 35.9%), increased alkaline phosphatase (5/32, 15.6%) and alanine aminotransferase (17/37, 45.9%) activity and hyperphosphatemia (9/35, 25.7%).

The most common disorders were endocrine (14/48, 29.2%), gastrointestinal (11/48, 22.9%), respiratory (5/48, 10.4%), oncologic (7/48, 14.6%) and renal (6/48, 12.5%). A final diagnosis was reached in 34/48 (70.8%) cats, while 7 (14.6%) had two concurrent diseases. The most frequent diagnosis were diabetes mellitus (7/34, 20.6%), hyperthyroidism (7/34, 20.6%) and triaditis (3/34, 8.8%).

CONCLUSION

The results of the study reveal that weight loss with a good or increased appetite was not a frequent presenting complaint in this population. The most common body systems affected were the endocrine and the gastrointestinal.