Evaluating the effect of maropitant, a neurokinin-1 (NK-1) receptor antagonist, on intra-operative anaesthetic requirements and post-operative nausea and vomiting in dogs undergoing routine ovariohysterectomy

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OBJECTIVES

To establish if pre-operative maropitant significantly reduced intra-operative isoflurane requirement and reduced clinical signs associated with post-operative nausea and vomiting (PONV) in dogs.

METHODS

24 client-owned dogs presenting for ovariohysterectomy were enrolled into this prospective, double-blinded, randomised clinical trial. Eligible dogs were 0.4–8 years old, ASA grade 1–2 and not pregnant/ displaying signs of pseudocyesis or oestrus. Pre-medication consisted of acepromazine (0.03 mg/kg) combined with methadone (0.3 mg/kg) intra-muscularly 45 minutes before anaesthetic induction

with intravenous propofol, dosed to effect. Meloxicam (0.2 mg/kg) was given intravenously following cephalic vein catheterization. Additionally, at premedication, dogs were randomly assigned to receive saline (group S) (0.1 ml/kg subcutaneously, n=12) or maropitant (group M) (1 mg/kg subcutaneously, n=12). Methadone (0.1 mg/kg intravenously) was repeated four hours later. Anaesthesia was maintained with isoflurane in oxygen, dosed to effect (same blinded observer). Monitored patient parameters included heart rate, non-invasive blood pressure, pulse oximetry, temperature, capnography and end-tidal isoflurane concentration (etlso). Post-operatively, dogs were assessed hourly using the short form of the Glasgow Composite Pain Score (GCPS) and examined for clinical signs attributable to PONV [scored from 0 (none) to 3 (severe)]. A t-test was used to assess mean etlso. Remaining variables were analyzed using Mann-Whitney U tests. Significance was set at $P < 0.05$.

RESULTS

Mean $\pm$ SD etlso was lower in group M ($1.19 \pm 0.26\%$) than group S ($1.44 \pm 0.23\%$) ($P = 0.022$). Group M had lower median [range] ETlso first incision o pre-operatively (1.02% [0.77–1.8%]) and at 1st ovarian pedicle ligation (1.13% [0.50–1.84%]) than group S (1.45% [0.81–1.9%] and 1.45% [0.69–3.2%]; $P = 0.033$ and $P = 0.02$ respectively). No other cardiorespiratory variables or post-operative GCPS differed significantly between groups. Overall, 50% of dogs displayed signs attributable to PONV, with no significant difference in PONV scores between groups ($P = 0.198$).

CONCLUSION

Maropitant reduced intra-operative isoflurane requirements, although not consistently and did not significantly affect the incidence of PONV.

A retrospective study of feline trauma patients admitted to a referral centre

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INTRODUCTION AND OBJECTIVES

Trauma cases are one of the most common cases presented to veterinary practitioners, with an incidence of 12–13%. In cats it is most commonly young males, with common causes being road traffic accidents (RTA), animal altercations and trauma of unknown origin.

A number of studies have looked into different severity scoring systems looking for prognostic value. However, none have been validated using a feline trauma population.

The aim of the study was to identify factors that were associated with an increased risk of mortality in feline trauma patients.

MATERIALS AND METHODS

Case records for 185 cats, presented to a referral hospital as an emergency after a traumatic event were examined retrospectively from February 2009 to December 2013. Each case was assigned a severity score from 1 to 6, ranging from very minor injuries to a moribund, dying animal. Data was analysed using Mann-Whitney U and Spearman's Rank correlation tests. Logistic regression used to calculate odds ratios.

RESULTS

Of 185 cats presented, 112/185 (60%) were male. Eleven percent (22/185) did not survive to discharge. Those presenting with a higher severity score were at increased risk of mortality ($p < 0.0005$) and had a greater length of hospital stay ($p < 0.0001$). RTAs were the most common cause of trauma (104/185), with the highest mortality and complication rates when compared to other causes. Shock and poly-traumatic injuries were identified as negative prognostic indicators, with these cases being 2.7 (95% CI 1.5 to 4.7, $p = 0.001$) and 7.0 (95% CI 1.6 to 30.9, $p = 0.01$), times more

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likely to not survive to discharge respectively. There was no relationship between age and severity score ($p = 0.3738$) or mortality ($p = 0.1104$).

CONCLUSION

An injury based scoring system is a valuable tool due to its

simplicity. It can be used to provide prognostic information for owners, which may help in determining the course of treatment. This study has shown that those with higher injury scores are at an increased risk of mortality. Cases with polytraumatic injuries or those in shock are at an even higher risk of mortality, highlighting the importance of stabilisation of patients in shock.

Preliminary findings from a prospective investigation of cats presenting with dyspnoea in general practice

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Dyspnoea is a life-threatening presenting sign: there have been no prospective studies of feline dyspnoea in general practice.

Cats presenting to our first-opinion practices with clinical signs of dyspnoea for the first time, between 1/6/2011 and 30/09/2015, were prospectively enrolled.

We collected signalment, historical and clinical data for each case at time of presentation including duration of dyspnoea, presence of cough, wheeze, weight loss, recent trauma, appetite and other relevant findings. Clinical details included: rectal temperature; heart/pulse rate; respiratory rate and other pertinent findings.

Each case was investigated and managed as deemed appropriate by the attending clinicians: tests were chosen based on relevance but test selection was influenced by client preference, finances and primary clinician experience.

Diagnoses were reviewed by the supervising clinicians

(the authors) and categorised as: cardiac, respiratory, neoplastic, traumatic or miscellaneous, based upon objective and accepted clinical, radiographic, echocardiographic or (where appropriate) post-mortem criteria. Significantly incomplete records were excluded.

A total of 100 cats were enrolled in the study. Six records were excluded so data from 94 cases were available for analysis. 85 of 94 were DSH or DLH. All cats were neutered, 55 were male. A diagnosis was reached in 89/94 cases. The commonest diagnosis was cardiac disease in 56/94, usually accompanied by heart failure. Respiratory disease was diagnosed in 20/94 cases. In this category pyothorax ($n=7$) and asthma ($n=5$) were the commonest diagnoses. Five cats with a respiratory problem were suspected to have neoplastic origin for their presentation, but that was unconfirmed in these cases. Neoplasia was definitively diagnosed in 10/94 whilst trauma was diagnosed in 6/94 cats. Other disease was diagnosed in 7 cases. Of 11 cats with more than one diagnosis 6 had hyperthyroidism and cardiac disease / failure. Two cats had respiratory disease and confirmed neoplasia. One had asthma and a recent RTA, one had cardiac failure and bronchopneumonia, one had restrictive cardiomyopathy and a mass in the right lung.

This preliminary data is being subjected to rigorous statistical evaluation to determine if anamnesis and clinical signs in these cats at the time of presentation could aid decision making in general practice. That data will not be presented.

Causes of acute dyspnoea in 323 owned and stray cats presented to RSPCA hospitals

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INTRODUCTION

Acute-onset dyspnoea in cats is a common presentation in first opinion practice but little data exist regarding the prevalence of different causes. RSPCA hospitals see a large number of both owned and stray cats, which allows causes of acute dyspnoea in these populations to be identified and compared. Expounding causes and their association with ownership status, age, and nature of dyspnoea may help guide investigation and therapy in first opinion practice.

MATERIALS AND METHODS

A retrospective study of 323 cats – 156 owned and 167 stray

– presented to RSPCA hospitals over a three-year period was performed. Cats were included if a definitive diagnosis had been reached, and these were grouped according to their primary aetiology: cardiac, traumatic, respiratory, infectious, neoplastic, and metabolic/endocrinological. Age, sex, and breathing pattern were recorded for each animal. The Chi-squared test was used to assess statistical differences in prevalence of causes between the owned and stray populations, and association of clinical variables with each cause in each group was analysed via multiple logistic regression analysis.

RESULTS

In the owned population ($n=156$), cardiac was the most common cause (91 cats, 58%), followed by traumatic (30, 19%), neoplastic (22, 14%), respiratory (5, 3%), infectious (4, 3%), endocrinological (2, 1%), obstructive (2, 1%). In the stray population ($n=167$), traumatic was the most common (124 cats, 74%), followed by infectious (24, 14%), cardiac (17, 10%), neoplastic (2, 1%), with no other causes identified. Differences in prevalence were significant for cardiac, traumatic