clinically challenging. This study suggests that severely elevated TBil, ultrasonographic identification of a dilated CBD and histopathological demonstration of neutrophilic bile

ductile infiltration support further investigation into the patency of the biliary tract. No findings were 100% sensitive for EHBO, including ultrasonography.

A retrospective study examining the relationship between biliary sludge and gall bladder mucocoeles

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Gall bladder mucocoele (GBM) is a potentially life-threatening condition whose aetiology has yet to be established. Some authors propose that biliary sludge progresses to GBM, but most consider sludge a benign finding. Some endocrinopathies, including hyperadrenocorticism, are suspected to increase the risk of developing a mucocoele. Whilst several studies have been carried out looking at the disease in the US dog population, to date no studies have been undertaken in the UK.

The aims of this study were to identify breeds predisposed to mucocoele in the UK and to examine the link between gall bladder mucocoeles and biliary sludge.

METHODS

A retrospective study was carried out on dogs with a diagnosis of GBM or biliary sludge at the Queen's Veterinary School Hospital between 2007 and 2014. Cases were included on the

basis of ultrasound examination (GBM and sludge) or post-mortem (GBM only). Non-parametric statistics were used to compare weight and sex of dogs.

RESULTS

Fifteen dogs with GBM and fifteen dogs with sludge were identified. Median weight of dogs with GBM was 7.7 kg, compared with 12.6 kg for dogs with sludge, but this difference was not statistically significant when the two groups were compared using the Mann-Whitney U test ($U=38$, Critical Value = 36). Neutered male dogs were significantly overrepresented in the sludge group compared to the GBM group ($p=0.03$). 7 breeds (Border Terrier, Miniature Schnauzer, Jack Russell Terrier, Cavalier King Charles Spaniel, West Highland White Terrier, Yorkshire Terrier and Cocker Spaniel) were represented in both the GBM and sludge groups.

A single case in a WHWT was identified where progression from sludge to mucocoele was documented ultrasonographically over a period of 10 months; the dog received a course of prednisolone during the intervening period.

CLINICAL SIGNIFICANCE

GBM occurs in similar breeds in the UK to the USA. In this study, GBM was as common as biliary sludge. In one dog, there appeared to be progression from sludge to GBM, which is the first reported case. Consideration should be given to treating biliary sludge in at-risk breeds to try to prevent progression to GBM.

Investigation of trends between thromboelastography profiles, systemic inflammatory response syndrome and outcome in cases of chronic hepatopathy in dogs

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Overt clinical coagulopathies are uncommon in canine liver disease. Chronic hepatopathy has been associated with both hyper and hypocoagulable states. Thromboelastography (TEG) is a global assessment of coagulation. Some of the coagulation changes are thought to be associated with inflammation. Previous research has associated hypercoagulability, identified as increased G-values, with hepatic encephalopathy. Hepatic encephalopathy in congenital

portosystemic shunts has also been associated with the presence of systemic inflammatory response syndrome. Previous studies into identification of prognostic indicators in canine liver disease, using TEG and systemic inflammatory response syndrome (SIRS) scores, have focussed on cases of congenital portosystemic shunt. There has been little investigation into the relationship between SIRS and coagulation in chronic hepatopathy cases. We hypothesised that there may be a relationship between SIRS score and TEG G-value, and that these parameters may have value as predictors of survival to discharge or 2 months.

The TEG database was searched for dogs diagnosed with chronic hepatopathy. The medical record was reviewed to assign SIRS scores. TEGs were obtained using kaolin activation and standard operating procedures. Outcome was categorised as 0 if patients were euthanised at the time of diagnosis, 1 if they were discharged from the hospital with palliative care and 2 if they were still alive at 2 months following diagnosis. None of the dogs showed clinical signs of coagulopathy at presentation.

Calculated mean G-values varied with outcome (Outcome 0, $n=5$, mean G-value = 10,000d/sc; Outcome 1, $n=7$, mean

G-value = 9542.8d/sc; Outcome 2, n= 5, mean G-value= 8,860d/sc). However, statistical analysis performed using one-way ANOVA comparing G-values between outcome groups did not support significance of this trend (p=0.94). There was no suggestion of trends between SIRS score and outcome or G-value and SIRS score.

In this study no statistically significant trends were identified. This likely reflects that no relationships exist between

G-value, SIRS score and outcome. There is no evidence from this study to support the use of G-value or SIRS score as prognostic indicators of outcome in chronic hepatopathy. It is possible that if the apparent trend in the G-values between outcome groups is true, the sample population was too small to identify significance. Repeated analysis of a larger sample size comparing outcome and G-value could be considered as an area for further investigation.

Effect of co-administration of gastroprotectants in reducing the risk of gastrointestinal side effects in dogs treated with immunosuppressive doses of corticosteroids

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BACKGROUND

High doses of corticosteroids are associated with gastrointestinal side effects. High doses of prednisolone (or equivalent corticosteroid) are used to treat immune-mediated diseases with or without the co-administration of gastroprotectants such as proton pump inhibitors, histamine H₂ receptor antagonists and sucralfate.

OBJECTIVES

Retrospective study investigating the co-administration of gastroprotectants and immunosuppressive doses of corticosteroids in reducing the risk of developing of gastrointestinal (GI) side effects observed as vomiting or diarrhoea.

STUDY

Electronic patient records at a university teaching hospital were searched to identify dogs with diagnoses of immune-mediated

haemolytic anaemia, steroid responsive meningitis or immune-mediated polyarthritis that were treated with immunosuppressive doses of corticosteroids. Dogs with immune-mediated thrombocytopenia were excluded from the study due to the increased risk of gastrointestinal bleeding.

The patient records were searched to identify whether dogs developed gastrointestinal signs after the administration of corticosteroids. Dogs were grouped according to whether gastroprotectants were administered before (prophylaxis group) or after (treatment group) GI signs and compared to those that received none. Logistic regression was used to analyse the risks of developing GI signs in these groups.

RESULTS

115 dogs were included. The median dose of corticosteroid administered was 2mg/kg/d. Excluding the treatment group, 16.8% (16/95) of dogs developed gastrointestinal side effects. 48.7% (56/115) of dogs received prophylactic gastroprotectants, 17.4% (20/115) received treatment and 33.9% (39/115) received none. The odd ratio (OR) comparing the risk of developing GI signs in the prophylaxis and no gastroprotectant groups was 3.63 (95% CI: 1.07,16.72), which was not statistically significant (p=0.0577). The OR comparing the treatment and none groups was 14.67 (95% CI: 3.72, 75.89), which was statistically significant (p=0.0003).

CONCLUSION

The prophylactic use of gastroprotectants in these dogs did not reduce the risk of developing gastrointestinal side effects following the administration of immunosuppressive doses of corticosteroids and the administration of gastroprotectants following the development of gastrointestinal signs may not reduce the clinical signs in this population of dogs.

Intestinal IL-17a protein expression in inflammatory bowel disease in dogs

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Interleukin 17 (IL-17) is a cytokine implicated in the pathogenesis of inflammatory bowel disease (IBD) in humans and mice. However, in dogs with IBD, no research has identified a definitive cytokine predominance in the intestines of diseased dogs. Previous work has shown that IL-17a mRNA expression in intestinal biopsies is low in both dogs with IBD and healthy controls. In this study, we therefore evaluated protein expression of IL-17a in the intestines of dogs with IBD to clarify further its potential role. Immunohistochemistry was performed using a polyclonal human IL-17a antibody (Abcam, ab79056), diluted at 1:100, followed by the Dako REALTM Rabbit-Mouse Detection System, HRP/AEC. Slides were viewed and images taken

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