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3-MAT, 80% 6-MAT) whilst the percentage of hypertensive animals at severe RTOD decreased (75% before treatment; 63% 1-MAT, 31% 3-MAT and 42% 6-MAT; but not significantly). Of the normotensive dogs at diagnosis, 2/5 (40%) remained normotensive 6-MAT and 3/5 (60%) became hypertensive at mild RTOD (150–159 mm Hg). Of the hypertensive dogs at diagnosis, 9/10 (90%) remained hypertensive 6-MAT being 5/10 (50%) at severe RTOD (≥ 180 mmHg).

There was no significant correlation between good control of HAC and good control of SBP ($SBP \leq 150$ mmHg or decreasing in the RTOD classification; from severe to moderate/moderate to mild) at 1, 3 and 6-MAT.

Prevalence of hypertension in dogs with HAC did not decrease during the first 6 months of treatment with trilostane, which has also been reported in people. A slight increase in SBP is observed in normotensive patients once treatment is started. Control of HAC with trilostane is not correlated with control of blood pressure and hypertensive dogs should be monitored closely. Hyperadrenocorticism is a progressive disease and treatment may not completely normalize the deleterious effects of hypercortisolism.

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ESVE-P-14

USE OF HYDROCORTISONE IN A COHORT OF DOGS IN THE MANAGEMENT OF ADDISONIAN CRISIS. A. Leobon, M. Seth. Animal Health Trust, Newmarket, UK

Canine Addisonian crisis occurs due to a deficiency in cortisol, typically associated with a concurrent deficiency in aldosterone. The glucocorticoid dexamethasone is most commonly used for emergency parenteral treatment in a crisis but this drug has negligible mineralocorticoid activity. The use of hydrocortisone sodium succinate (HSS) is described in human medicine. Besides its glucocorticoid activity, it has potent mineralocorticoid activity potentially making it superior to dexamethasone for treatment of Addisonian crisis.

Our aims were to describe treatment of Addisonian crisis using HSS in a cohort of dogs. Furthermore, we compared this therapy to dogs treated with dexamethasone over the same period. Records from a single referral hospital were searched between 2007 and 2015, identifying 15 dogs diagnosed with an Addisonian crisis (serum cortisol concentration < 55 nmol/L after administration of tetracosactrin, requiring hospitalization for emergency stabilisation). Dogs were excluded if they had already received any glucocorticoid and/or mineralocorticoid therapy prior to admission, or had incomplete data concerning treatment, laboratory tests or outcomes. Seven dogs were treated with HSS continuous rate infusions ranging from 0.3 to 0.625 mg/kg/h (Group A). Eight dogs were treated with intravenous dexamethasone doses ranging from 0.05 to 0.3 mg/kg (group B). None of the dogs in group A required treatment with dexamethasone and none of the dogs in group B received HSS at any stage during treatment. Both HSS and dexamethasone were associated with adequate management of the acute adrenocortical insufficiency in every case with all patients surviving to discharge.

No significant differences were found between the two groups regarding age, weight, gender, admission Na^+ and K^+ concentrations, length and median cost of hospitalisation, median time for K^+ concentration to normalise, time to spontaneously eat or amount of crystalloid and colloid fluids used.

The median time for Na^+ concentration to normalise was significantly shorter in group A compared to group B ($P = 0.0424$). One dog in group B was treated with a vasopressor (dopamine) whereas none of the dogs in group A were treated with vasopressors.

These results suggest that HSS is effective in managing canine Addisonian crisis. Prospective studies on a larger cohort of dogs are warranted to further assess the potential benefits of HSS compared to dexamethasone.

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ESCG – European Society of Comparative Gastroenterology

ESCG-P-1

PRIMARY GASTRO-INTESTINAL DISEASE IN CATS AND DOGS WITH GASTRO-INTESTINAL FOREIGN BODIES: 28 CASES. R. Lobetti¹, E. Lindquist², J. Frank², J. Mclean¹. ¹Bryanston Veterinary Hospital, Bryanston, South Africa, ²SonoPath, New Jersey, USA

Gastro-intestinal (GI) foreign bodies are not unusual in either cats or dogs of all ages. The diagnosis is often suspected on history, physical examination findings, radiographs, and ultrasonography; with the diagnosis being confirmed on laparotomy. A recent study showed that a gastric foreign body was a significant risk factor for the development of gastric dilatation and volvulus in dogs.

The purpose of this study was to correlate if cats or dogs with a GI foreign body had underlying GI disease. The hypothesis was that cats or dogs with a GI foreign body have primary underlying gastro-intestinal disease resulting in pica and the subsequent ingestion of a foreign body.

The records of 28 privately owned cats or dogs that had been diagnosed with a gastro-intestinal foreign body and had histopathology done of the gastro-intestinal tract were retrospectively evaluated. Inclusion criteria were a diagnosis of a GI foreign body together with histopathology of the GI tract from biopsies taken at the time of surgical removal of the foreign body.

Of the 28 cases, there were 11 cats and 17 dogs. The mean age of the cats was 9.2 years (range 4–15) and that of the dogs 9.1 years (range 2–14). All cats were classified as DSH and the dog breeds were varied. There were 5 males and 6 females within the cat group and 8 males and 9 females within the dog group. Histopathology diagnosis in the cats was lymphoplasmacytic enteritis (4), lymphoma (5), and carcinoma (2); whereas in dogs the histopathology diagnosis was lymphoplasmacytic enteritis (7), lymphoma (3), necrotic enteritis (3), carcinoma (2), and eosinophilic enteritis (2).

These findings indicate that cats or dogs with a GI foreign body can have underlying primary GI disease and that the presence of a foreign body may thus be an indicator of more serious GI disease. Therefore, in cats or dogs with a GI foreign body, biopsies of the gastro-intestinal should be done at the time of surgery to ensure that underlying disease is identified and correctly managed.

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ESCG-P-2

FECAL MICROBIOME AND PREDICTED GENE FUNCTION IN CZECHOSLOVAKIAN WOLFDogs FED WITH EITHER A BONE AND RAW FOOD DIET OR A COMMERCIAL DIET. M. Cerquetella¹, S. Silvi¹, M.C. Verdenelli², M.M. Coman², A. Spaterna¹, J.M. Steiner³, G. Rossi¹, J. Suchodolski³. ¹University of Camerino, Matelica, Italy, ²Synbiotec S.r.l., Spin-off of University of Camerino, Camerino, Italy, ³College of Veterinary Medicine and Biomedical Sciences, Texas A&M University, College station, USA

The mammalian intestine is inhabited by a set of microorganisms (i.e., bacteria, viruses, fungi, archaea), named microbiota. Various different conditions can influence the microbiota with one of those being diet. The present study investigated the effect of a BARF diet on the fecal microbiome and on fecal functional gene content predictions comparing two groups of four Czechoslovakian Wolf-dogs each, fed with either a BARF or a commercial diet.

BARF diet dogs were fed with kibble from about 6 months, and the group was composed of 4 dogs, 2 males (A2, A4) and 2 females (A1, A3); the commercial diet group was composed of 4 dogs, 1 male (B1) and 3 females (B2, B3, B4). A1, A2, and A4 were all puppies from the same litter, A3 was the mother of those puppies; within the BARF group, B1 and B4 were the parents of B3; and B1 was also the father of B2. Living environments were different between and within groups. DNA was extracted using a commercial kit and analyzed by next generation sequencing of 16S rRNA genes. The data was analyzed using the freeware QIIME.

PICRUSt was used to predict the functional gene content. Linear discriminant analysis (LDA) effect size (LEfSe) was used to identify significantly altered bacterial taxa.

LEfSe analysis showed that being fed the BARF diet was associated with higher proportions of Fusobacteria, Epsilon-Proteobacteria, *Carnobacterium*, and genera within *Clostridiaceae*, while being fed the commercial diet was associated with increased proportions of various bacterial groups, including *Bifidobacterium*, Lactobacillales, and *Turicibacter*. *Lactobacillus* was more prevalent in dogs of the commercial diet group ($P = 0.03$, adjusted q -value not significant), while *Fusobacterium* had a significantly higher abundance in the BARF group ($P = 0.03$, adjusted q -value not significant). Rarefaction analysis indicated that the BARF group had a significant lower microbial diversity than the other group (Chao1 $P < 0.05$). LEfSe analysis of the functional gene content prediction revealed a total of 6 differentially enriched bacterial functions between the two groups.

Our results suggest that a bone and raw food diet could influence the canine fecal microbiome, similarly to other factors, such as age, genetic relatedness, and could also result in a different abundance of functional genes. Further studies in a larger group of unrelated dogs are needed to better characterize these influences.

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ESCG-P-3

GRANULOMATOUS COLITIS: MORE THAN A CANINE DISEASE? R.O. Oliveira Leal¹, K. Simpson², J. Hernandez¹. ¹Centre Hospitalier Vétérinaire Fregis, Arcueil, France, ²College of Veterinary Medicine – Cornell University, Ithaca, USA

Granulomatous Colitis (GC) is a rare form of inflammatory bowel disease (IBD) predominantly diagnosed in young Boxers and French Bulldogs. It is usually associated with mucosally invasive *E.coli* that are able to persist in macrophages. Eradication of invasive *E.coli* correlates with remission of clinical signs and histopathological abnormalities. Genetic analysis of affected dogs has implicated a region on chromosome 38 that is involved sensing and killing of *E.coli* in other species. Thus it is emerging that *E.coli* associated GC in Boxers and French bulldogs is likely a heritable genetic defect sensing or killing of intracellular *E.coli*. *E.coli* associated Granulomatous colitis has not been documented in cats.

A 4 years old male neutered cat was referred for chronic intermittent hematochezia and fecal incontinence of 7 months duration. No weight loss was reported and the cat was keeping a good appetite. Symptomatic treatments (including deworming, metronidazole and hypoallergenic diet) have been tried without clinical improvement. Physical examination, Complete Blood Count and biochemistry panel (including folate and cobalamin) were within normal limits. Fecal flotation, PCR for *Trichostrongylus axei* and *Giardia* was negative. Abdominal sonography revealed a colonic wall thickness. Colonoscopy showed an irregular and thickened colonic wall with multiple erosions, compatible with ulcerative colitis or infiltrative neoplasia. Histopathologic analysis revealed a multi-focal ulceration of epithelium, with marked PAS positive cell and a moderate diffuse lympho-plasmacytic infiltration of the lamina propria. Toluidine-blue and Fite-Faraco stains did not show mast cell infiltration or mycobacteria-like bacteria, respectively. Rectal wall culture was positive for *E.Coli* and negative for *Salmonella*, *Yersinia* and *Campylobacter*. Antimicrobial susceptibility testing was broadly positive. Fluorescence In Situ Hybridization of colonic biopsies revealed multifocal clusters of intracellular *E.Coli*. Treatment with enrofloxacin (5 mg/kg SID for 6 weeks) led to the complete resolution of clinical signs with remission sustained for 4 months to date.

Our findings reveal that *E.coli* associated GC can also affect cats and should be considered on the differential diagnosis of chronic hematochezia. Further studies are needed to assess molecular, genetic and immune pathways beneath intracellular invasion by *E.coli* in cats with GC.

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ESCG-P-4

BREED ASSOCIATION OF ENDOSCOPICALLY DIAGNOSED GASTRIC NEOPLASIA AND METAPLASIA IN PUREBRED DOGS – A RETROSPECTIVE STUDY. M.V. Candido, S. Pernilla, S. Kilpinen, T. Spillmann. University of Helsinki, Helsinki, Finland

Gastric cancer is a rare pathologic finding, corresponding to one percent of all neoplasias identified in dogs. Previous studies have shown breed predisposition for Tervuren, Bouvier des Flandres, Groenendael, Collie, Poodle and Norwegian Elkhound. This study aimed at investigating which pure breeds are most commonly subject to gastroduodenoscopy (GDS) in a referral hospital, and their probability to be diagnosed with gastric neoplasia or metaplasia. For the retrospective analysis, a computerized database search was performed for dogs meeting the following inclusion criteria: subject to GDS; belonging to a pure breed with a minimum of five GDS patients in the records.

Between 2006 and 2015, 44915 canine patients were presented, of which 338 dogs underwent GDS. The inclusion criteria were achieved in 19 pure breeds accounting for 150 dogs (44% of all GDS). Six of these dogs (4%) had gastric carcinoma, including Tervuren (3), Rough Collie, Labrador Retriever and Rottweiler. Gastric metaplasia was diagnosed in six dogs of other breeds: Smooth Collie (2), Wire-haired Dachshund, Shetland Sheepdog, Hovawart, and Siberian Husky. Logistic regression analysis revealed significantly higher odds ratio (OR) to undergo GDS for Wire-haired Dachshund with 2.42 (95% confidence interval: lower 1.14–higher 5.15), Smooth Collie with 2.36 (1.04–5.32), and Rough Collie with 1.72 (1.05–2.81). The OR for gastric neoplasia was 70.98 (8.49–593.32) for Tervuren. The ORs for metaplasia were non-significant. When a log-binomial model was used, also the risk ratio for neoplasia was significantly higher in Tervuren (RR = 29; 7.68–109.54).

The low prevalence of cancer in this study is in accordance with previous studies using cancer and pathology registers. Except for the Collies, breeds predisposed for gastric cancer were not more often subject to GDS than others. Like in previous studies, Tervuren undergoing GDS were found at much higher risk to have gastric carcinoma. The high OR for Wire-haired Dachshund and Collies to undergo GDS might indicate a higher prevalence of gastrointestinal disorders beside neoplasia, warranting further studies. Gastric metaplasia was as rare as gastric cancer and no breed predisposition was found. Nonetheless, metaplasia can present as discrete, flat changes that are easily overlooked and possibly underdiagnosed considering the limitations of current white light endoscopy techniques and non-directed sampling procedures. Future prospective studies in predisposed breeds should aim at applying more advanced endoscopic approaches to improve the knowledge about prevalence and breed predisposition of metaplasia and its possible association to canine gastric cancer.

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Employee/salary: No conflict. Marcus Vinicius Candido has worked in zoos in southern Brazil, having researched on various topics (2000–2010). He has been a teacher of anatomy and exotic animal medicine in FURB, Brazil (2009–2012). He has worked as a private practitioner with companion animal endoscopy in southern Brazil since 2012. He is currently a PhD student funded by Brazilian program Ciências sem Fronteiras/CNPq, researching with endoscopy and also treating patients at the exotic animal clinic at the Small Animal Hospital at University of Helsinki.

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