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2017 ACVIM Forum Research Abstract Program

2017 ACVIM Forum Research Abstract Program
National Harbor, Maryland, June 8–9, 2017
Index of Abstracts

Oral Presentations – Thursday, June 8

Time	#	Presenting Author	Abstract Title
CARDIOLOGY			
4:30 PM	C01	Emily Chapel	Right Ventricular Systolic Function in Dogs with Preclinical and Clinical Myxomatous Mitral Valve Disease
4:45 PM	C02	Catherine Belanger	High-Pressure Balloon Valvuloplasty for Severe Pulmonic Stenosis: A Prospective Observational Study in 25 Dogs
5:00 PM	C03	Flavia Giacomazzi	Exit Block as a Mechanism of Sinus Node Dysfunction Evidenced by Geometric Heart Rate Variability
5:15 PM	C04	Tsumugi Kurosawa	Is the Left Atrium Prothrombotic in Cats with Aortic Thromboembolism?
5:30 PM	C05	Eva Oxford	Characterization of Gene Expression Profiles Linked to Degenerative Mitral Valve Disease in Small Breed Dogs
5:45 PM	C06	Ilaria Spalla	Prognostic Value of MAPSE and TAPSE in Feline Hypertrophic Cardiomyopathy
6:00 PM	C07	Nicole Wyatt	Echocardiographic Assessment of Aortic Root Rotation in Dogs with Congenital Heart Disease
NEUROLOGY			
9:00 AM	N01	Devin Ancona	Common Cytogenetic Alterations Define Choroid Plexus Tumors in Dogs (ACVIM Resident Research Award Eligible)
9:15 AM	N02	Devin Ancona	Pullout Properties of Monocortical and Bicortical Pins and Screws in Canine Lumbar Vertebral Bodies (ACVIM Resident Research Award Eligible)
9:30 AM	N03	Laura Barnard	Pharmacokinetic Analysis of Single Dose Extended Release Levetiracetam Per OS in Healthy Cats (ACVIM Resident Research Award Eligible)
9:45 AM	N04	Sasha Dixon	Surgical Decompression, with or without Adjunctive Therapy, for Treatment of Primary Vertebral Osteosarcoma in Dogs (ACVIM Resident Research Award Eligible)
10:30 AM	N05	Lindsey Peterson	The Effects of Stabilizing Agents, Fetal Calf Serum and Vetstarch, on Canine Cerebrospinal Fluid Analysis (ACVIM Resident Research Award Eligible)
10:45 AM	N06	Natalie Villani	GM2 Gangliosidosis in Shiba Inu Dogs with an In-Frame HEXB Deletion and Autofluorescent Storage Granules
11:00 AM	N07	Chai-Fei Li	Exosome-Associated Integrins as Liquid Biopsy Biomarkers for Canine Glioma

disease severity. Linear regression showed mild correlation with CCECAI score for these two indices with PLT r^2 value of 0.28 and PCT of 0.25.

In conclusion, a strong correlation between platelet indices and presence or severity of disease in dogs with inflammatory bowel disease is not statistically supported. In spite of this, many indices show potential value as predictors of disease in patients with IBD. A larger study population is likely needed to determine true significance.

GI41

COMPARISON OF SERUM LIPOPROTEIN PROFILES BETWEEN CATS WITH HEPATIC LIPIDOSIS AND HEALTHY CONTROL CATS. T. Minamoto[1], A. Hamilton[2], S.L. Hill[2], J.S. Suchodolski[3], J.M. Steiner[4], J.A. Lidbury[3]. [1]Gastrointestinal Laboratory Texas A&M University, College Station, TX, USA, [2]Veterinary Specialty Hospital, San Diego, CA, USA, [3]Gastrointestinal Laboratory, Texas A&M University, College Station, TX, USA, [4]Gastrointestinal Laboratory, College of Veterinary Medicine, Texas A&M University, College Station, TX, USA

Lipoproteins are conglomerates of triglycerides, cholesterol, phospholipids, and apolipoproteins that transport lipids in the blood stream and are classified into 5 classes based on their density: chylomicrons, very low density lipoproteins (VLDL), intermediate density lipoproteins (IDL), low density lipoproteins (LDL), and high density lipoproteins (HDL). Based on the human literature, altered proportions of lipoprotein classes have been described in certain disease states, such as cardiovascular disease or metabolic disease. Few published reports are available in veterinary medicine regarding the characteristics of lipoproteins in diseased animals. Feline hepatic lipidosis (FHL) is characterized by excessive accumulation of lipid within hepatocytes, which can lead to intrahepatic cholestasis and severe hepatic dysfunction. We hypothesized that cats with FHL show an altered serum lipoprotein profile due to intensive lipolysis in adipose tissue and alterations in hepatocellular lipid metabolism. The aim of this study was to compare serum lipoprotein profiles as well as serum cholesterol and triglyceride concentrations between cats with FHL and healthy control cats.

Analysis of serum lipoprotein profiles using density gradient ultracentrifugation was performed in 20 cats with FHL (confirmed by cytological and/or histological findings) and 20 healthy control cats. The area under the curve for triglycerides-rich-lipoproteins (TRL), LDL, and HDL was calculated. In addition, serum cholesterol and triglyceride concentrations were measured using a clinical chemistry analyzer. Data were analyzed using a Wilcoxon rank sum test. Significance was set at $P < 0.05$.

LDL content was significantly higher in cats with FHL than in healthy control cats ($P = 0.0001$), while HDL content was significantly lower in cats with FHL than in healthy control cats ($P = 0.0032$). TRL content was not significantly different between the two groups ($P = 0.0699$). Also, serum cholesterol and triglyceride concentrations were not significantly different between the two groups ($P = 0.5075$ and $P = 0.2541$, respectively).

In our study, serum lipoprotein profiles were altered in cats with FHL even though serum cholesterol and triglyceride concentrations were not significantly different compared to healthy control cats. The clinical importance of lipoprotein profiling in cats with hepatic lipidosis warrants further study.

GI42

ILEAL AND COLONIC MUCOSAL MICROBIOTA IN DOGS WITH STEROID RESPONSIVE CHRONIC ENTEROPATHY. F. Bresciani[1], Y. Minamoto[2], J.S. Suchodolski[2], G. Galiazzo[1], C. Vecchiato[1], C. Pinna[1], G. Biagi[1], M. Pietra[1]. [1]Department of Veterinary Medical Sciences, University of Bologna, Ozzano dell'Emilia, Emilia-Romagna, Italy, [2]Gastrointestinal laboratory, Texas A&M University, College Station, TX, USA

Exact aetiology for inflammatory chronic enteropathies in dogs remains unknown. Accumulating evidence suggests a pivotal role for intestinal dysbiosis in disease pathogenesis. Many studies have evaluated the alteration of faecal microbiota in canine chronic gastrointestinal (GI) disease, and less research is focused on mucosal microbiota, especially in the ileum and colon. The objectives of the current study were to evaluate ileal and colonic mucosal microbiota in dogs with steroid responsive enteropathy (SRE) before and after 4 months of treatment, and to compare them to control dogs (CD).

A total of 10 dogs diagnosed with SRE were enrolled. Complete GI endoscopy was performed and samples were collected by a cytology brush at diagnosis (SRE-Baseline, $n = 10$) and after 4 month of treatment (SRE-After, $n = 8$). Oral laxative and 2–4 water enemas were performed before endoscopy. A total of 6 CD that were euthanized for reasons unrelated to this study, with no GI disease, were included. Samples from CD were obtained during necropsy within 3 hours of death. Mucosal genomic DNA was extracted and used for Illumina sequencing of 16S rRNA genes. Sequence data were analysed using the QIIME pipeline. Statistical significance was set at $P < 0.05$.

Clinical signs improved significantly after 4 month of treatment in SRE, but no improvement was seen on endoscopic or histological evaluation. Significant differences in microbial communities between SRE-baseline and CD were observed in the colon (ANOSIM $P = 0.002$), but not in the ileum (ANOSIM $P = 0.180$). In dogs with SRE, both ileal and colonic microbial communities remained similar after 4 month of treatment (ANOSIM $P = 0.189$ and $P = 0.637$, respectively), and were different from CD (ANOSIM $P = 0.001$ and $P = 0.004$, respectively).

Results of this study suggest that the mucosal microbiota in the colon of dogs with SRE is different from that of CD. Although clinical signs improved, colonic mucosal dysbiosis was still present after 4 months of treatment.

GI43

EFFECTS OF PREDNISOLONE ADMINISTRATION ON PANCREATIC TISSUE AND PANCREATIC LIPASE IMMUNOREACTIVITY CONCENTRATION IN HEALTHY DOGS. H. Ohta, N. Sasaki, K. Morishita, K. Nakamura, M. Takiguchi. Department of Veterinary Clinical Sciences, Hokkaido University, Sapporo, Hokkaido, Japan

The canine pancreatic lipase immunoreactivity (cPLI) concentration is considered the most specific biomarker for the diagnosis of canine pancreatitis. In one report, 4 weeks of oral administration of prednisone (2.2 mg/kg/day) to six healthy dogs had no significant effect on the serum cPLI concentration (Steiner et al., 2009). The aim of this study was to determine the effect of high-dose prednisolone (4 mg/kg/day) on the pancreatic tissue and serum cPLI concentration in healthy dogs. Six healthy beagles received prednisolone (4 mg/kg/day subcutaneously) for 2 or 3 weeks. Measurement of the cPLI concentration and ultrasonographic examination of the pancreas were performed before and after treatment. Laparoscopic biopsy of the liver and right pancreatic lobe was also performed before and after treatment. The serum cPLI concentration was compared before and after treatment using the Wilcoxon signed-rank test. The serum cPL concentration was significantly higher after than before treatment. The post-treatment cPLI concentration was classified as normal ($\leq$200 μg/L) in five dogs and abnormal ($\geq$400 μg/L) in one dog.

Ultrasonographic examination of the pancreas showed no significant change after treatment. There was no histological evidence of pancreatitis in the right pancreatic lobe after treatment. Administration of prednisolone at 4 mg/kg/day for 2 or 3 weeks increased the serum cPLI concentration in six healthy dogs, although a clinically significant increase ($\geq$400 μg/L) was observed in only one dog. Histological evidence of pancreatitis was not observed in any of the six dogs examined.