Occurrence of Hypertrophic Cardiomyopathy in a Large Cohort of British Shorthair Cats
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ORAL PRESENTATIONS – Thursday, June 10

**SMALL ANIMAL – CARDIOLOGY**

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<td>Sonja Fonfara</td>
<td>Cytokine and Matrix Metalloproteinase Expression in Blood Samples of Dogs With Congestive Heart Failure</td>
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<tr>
<td>9:15 am</td>
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<td>Dennis Trafny</td>
<td>Cardiac Troponin-I Concentration is Elevated Pre and Post-Pacing in Dogs With Bradyarrhythmias: Is Myocarditis a Potential Etiology?</td>
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<td>3</td>
<td>Kristine Yee</td>
<td>Diagnostic Test Parameters in Cats With Heart Disease and their Correlation With NT-proANP, NT-proBNP and Troponin I Measurements</td>
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<td>Gemma Fraga Veloso</td>
<td>Expression of Urocortins in Canine Myocardium and Plasma Levels in Dogs With Cardiac Disease</td>
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<td>Dan Ohad</td>
<td>Is the Cardio-Renal-Anemia Syndrome Prevalent in Dogs?</td>
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<td>Andrea Lantis</td>
<td>Aldosterone Escape in Furosemide-Activated Circulating Renin-Angiotensin-Aldosterone System (RAAS) in Normal Dogs</td>
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<td>Melanie Herzell</td>
<td>Relationships Between Serum and Urine Aldosterone, Ventricular Remodelling and Outcome in Dogs With Mitral Valve Disease</td>
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<td>Ian Jones</td>
<td>Flow Mediated Vasodilation in Canine Chronic Mitral Valve Disease</td>
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<td>Inge Tarnow</td>
<td>Congestive Heart Failure in Dogs Is Associated With Enhanced Platelet-Leukocyte Aggregates - A Marker for Platelet Activation</td>
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<tr>
<td>11:45 am</td>
<td>10</td>
<td>Inge Tarnow</td>
<td>Thromboelastography in Dogs With Asymptomatic Myxomatous Mitral Valve Disease</td>
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<tr>
<td>12:00 pm</td>
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<td>Caroline Rasmussen</td>
<td>24-hour Electrocardiography in Clinical Healthy Cavalier King Charles Spaniels, Wire-Haired Dachshunds and Cairn Terriers</td>
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<td>12:15 pm</td>
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<td>Lisa Freeman</td>
<td>Development and Evaluation of a Quality of Life Questionnaire for Cats With Cardiac Disease</td>
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**Also see Cardiology abstracts 68 - 81 (Thursday, June 10, 2:15 pm – 6:00 pm)**

**SMALL ANIMAL – ONCOLOGY**

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<td>Luis Lembeck</td>
<td>Evaluation of Tyrosinase Expression in Canine and Equine Melanocytic Tumors</td>
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<td>Rebecca Brown</td>
<td>Expression of KIT in Canine Anal Sac Adenocarcinoma Using Tissue Immunohistochemistry</td>
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<td>Courtney Mallett</td>
<td>Immunohistochemical Characterization of Feline Mast Cell Tumors</td>
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<tr>
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<td>Shannon Parlitt</td>
<td>Radiosensitivity and Capacity for Radiation-Induced Sublethal Damage Repair of Canine Transitional Cell Carcinoma Cell Lines</td>
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<td>10:30 am</td>
<td>17</td>
<td>Jeffrey Phillips</td>
<td>Genetics of Osteosarcoma in the Scottish Deerhound</td>
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<tr>
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<td>Masahiko Sato</td>
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<td>Sandra Axiak</td>
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Boldface type indicates ACVIM Resident Research Award eligibility. Presentation times are subject to change.
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3:30 pm 172 Lucie Goodwin Evaluation of Hypercoagulability Using Thromboelastography (TEG) in Dogs With Protein Losing Enteropathy
3:45 pm 173 Dottie Laflamme Comparison of Two Canned Diets Designed for the Management of Feline Diarrhea

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4:30 pm 174 Susanne Kilpinen Determination of the Dosage Regimen of Tylosin in the Treatment of Canine Tylosin-Responsive Diarrhea
4:45 pm 175 Aarti Kathrani CD11c Positive Dendritic Cells are Significantly Decreased in the Duodenum of Dogs With Inflammatory Bowel Disease
5:00 pm 176 Aarti Kathrani Overdominant Single Nucleotide Polymorphisms in the Nucleotide Oligomerisation Domain Two (NOD2) Gene are Significantly Associated With Canine Inflammatory Bowel Disease
5:15 pm 177 Jan Suchodolski Relationship of Mucosal Gene Expression to Microbiota Composition in Dogs With Inflammatory Bowel Disease
5:30 pm 178 Nashwa Waly Measurement of IL-12 (p40, p35), IL-23p19 and IFN-gamma; mRNA in Duodenal Biopsies of Cats With Inflammatory Bowel Disease and Healthy Controls using Quantitative Reverse Transcription Polymerase Chain Reaction (qRT-PCR)
5:45 pm 179 Melanie Craven Mucosal Cytokine Profiling Reveals IL-6 Up-Regulation in Feline IBD and Alimentary Lymphoma
6:00 pm 180 Jevan Christie Fecal Sensitivity as a Tool to Differentiate Between Non-Neoplastic and Neoplastic Spirocerca Lupi Nodules Using a Modified Centrifugal Flotation Method

POSTER PRESENTATIONS

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Attended by Authors Eligible for ACVIM Resident Research Awards: Thursday, June 10, 9:50 am – 10:30 am; Friday, June 11, 9:50 am – 10:30 am

Attended by ALL Authors – Wine & Cheese Reception: Friday, June 11, 6:00 pm – 7:30 pm

# Presenting Author Abstract Title

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181 Maria Helena Larsson Time-Domain Signal-Averaged Electrocardiogram in Healthy German Shepherd and Boxer Dogs
182 Maria Helena Larsson Time Domain High-Resolution Electrocardiography in Boxer Dogs With Arrhythmogenic Right Ventricular Cardiomyopathy and Dilated Cardiomyopathy
183 Aparecido Camacho Heart Rate Variability in Boxer Dogs With Arrhythmogenic Right Ventricular Cardiomyopathy
184 Denise Schwartz Six Minute Walk Test Standardization for Dachshund, Poodle and Labrador Retriever Dogs
185 Aparecido Camacho Effects of Treadmill Training Over Autonomic and Hemodynamic Functions in Healthy Dogs
186 Masashi Mizuno Effects of Running on the Renin-Angiotensin-Aldosterone System in Dog
187 Sara Granström Occurrence of Hypertrophic Cardiomyopathy in a Large Cohort of British Shorthair Cats
188 Aparecido Camacho Clinical Characterization of Hypertensive Hypertrophic Cardiomyopathy in Dogs With Chronic Kidney Disease (CKD)
189 Aparecido Camacho Heart Rate Variability in Dogs With Mitrail Endocardiosis or Natural Morbid Obesity
190 Carley Saelinger Comet-Tail Artificial in Normal Dogs and Dogs With Cardiogenic Pulmonary Edema
191 Takashi Ebisawa Clinical Usefulness of Measuring Plasma Atrial Natriuretic Peptide Concentrations for Assessing the Severity in Dogs With Degenerative Mitral Valve Disease
192 Pierre Menaut Circulating Natriuretic Peptides Concentrations in Hyperthyroid Cats
193 Caryn Reynolds Weekly Variability of Plasma NT-proBNP Measurements in Cats With and Without Heart Disease
194 Aliya Magee Use of Abciximab to Determine Platelet Reactivity in Healthy Cats
195 Carolina Carlos Sampedrano Effects of High Versus Normal Salt Diets on Cardiovascular Variables in Healthy Aged Cats: A 6-Month Study
196 Takeshi Mizuno Relationship Between Prognosis and Immune Response in Dogs After Mitrail Annuloplasty
197 Shigeki Yamano Endogenous Erythropoietin Levels and Iron Utilization in Dogs With Degenerative Mitrail Disease
198 Yoko Fujii Prevalence of Right to Left Shunt Due to Patent Foramen Ovale Concurrent with Pulmonary Stenosis in Dogs
199 Meg Sleeper Dobutamine Stress Testing in Portuguese Water Dogs with Juvenile Dilated Cardiomyopathy
200 Sabine Riesen Pharmacokinetics of Oral Ivalbridine in Healthy Cats
201 Michael Katz Thiopental Anesthesia Reveals Predominant Role for the Central Mechanism of Respiratory Sinus Arrhythmia in the Dog
202 Lauren Calland In-Hospital Electrocardiograph Versus 24-Hour Holter Monitor for Assessing Heart Rate in Dogs With Atrial Fibrillation
203 Ashley Saunders Bradysysteathymias Requiring Pacemaker Implantation in Chagas Positive Dogs

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204 Kensuke Nakamura Contrast-Enhanced Ultrasonography With Sonazoid® for Characterization of Focal Splenic Lesions
205 Silvia Lucas Evaluation of Oxidant/Antioxidant Total Status and Erythrocyte Antioxidant Defense in Cats With Lymphoma
206 Elizabeth Lechner Oxidative Stress in Dogs With Lymphoma Before and After Administration of Doxorubicin: A Pilot Study
EFFECTS OF TREADMILL TRAINING OVER AUTONOMIC AND HEMODYNAMIC FUNCTIONS IN HEALTHY DOGS.

The intensity of training was individually determined by a maximal heart rate (MHR) observed in a maximal progressive effort test. Gradually, the intensity of training was increased in 50% of MHR, in the first week, to 60%, 70% and 80% of MHR in the second, third and fourth weeks, respectively. The paired t test was used to compare data before and after training. The improvement in functional capacity of the dogs was attested by a better performance on the physical test after training, achieving higher levels of intensity (9.0 km/h to 11.1 km/h; p = 0.0155) and decreasing the area under the curve of lactate (31.2 to 26.0; p < 0.0001). Increase in parasympathetic tone on HRV was verified by SDANN (155.5 to 200.3; p = 0.00033), decrease left atrial diameter (2.37 to 2.1 RH), amplitude of heart rate (188.5 to 51.9 ms; p = 0.0118), amplitude of heart rate (188.5 to 51.9 ms; p = 0.0118), and by a higher percentage of respiratory sinus arrhythmia on a maximal progressive effort test (> 50% during 2 km/h before training and 8 km/h after training). On the hemodynamic aspect, training lead to increase diastolic interventricular septum thickness (0.78 ± 0.12 cm to 0.91 ± 0.16 cm; p = 0.0294), decrease left atrial diameter (2.37 ± 0.22 cm to 2.15 ± 0.19 cm; p = 0.0369), left ventricular end-diastolic (4.47 ± 0.30 to 3.82 ± 0.62; p = 0.0068), and end-systolic (2.37 ± 0.39 to 1.88 ± 0.40; p = 0.0104) wall stress indexes, suggesting preload and afterload reduction. Improvement of diastolic function was confirmed by mitral E/A waves (1.42 ± 0.19 to 1.83 ± 0.46; p = 0.0467). No differences (p > 0.05) were detected on systolic function (EF%, SF%, left and right ejection time, left pre-ejection time, ejection in- dex, and mean velocity of circumferential fibers shortening), left ventricular end-systolic and end-diastolic volume indexes, and on Tei index of myocardial performance. As observed in a human being, training results in better autonomic and hemodynamic control in healthy dogs. In a near future we expect that this therapeutic modality could be helpful for cardiovascular improvement in the canine species.

Familial hypertrophic cardiomyopathy (HCM) has previously been described in British Shorthair cats (BSH), but until now, no reports have been published on how prevalent the disease is within this breed. The aim of this study was to assess the occurrence of HCM in a large cohort of BSH and to evaluate the effect of gender, weight and age as potential risk factors to presence of the disease.

The study was conducted as a prospective study including all BSH presented at the Small Animal Hospital for HCM screening in the period of April 2006–August 2009. All cats were examined by the same two trained ultrasonographers using a Vivid 7 ultrasound system (GE Medical) with a 10 S phased array transducer (8–10 MHz). Measurements of the left ventricle were obtained by conventional 2D- and M-mode imaging of right parasternal long- and short axis views. Diagnosis of HCM was based on an overall assessment of echocardiographic findings, but cats were classified as to have a concentric hypertrophy if the interventricular septum (IVS) and/or left ventricular free wall (LVFW) measured > 5.5 mm in diastole. To rule out other causes of left ventricular concentric hypertrophy, a complete blood count, biochemical profile, thyroxin level and blood pressure were measured in affected cats. In the statistical analyses occurrence of HCM was expressed as a percentage at age, weight and echocardiographic variables, and the average weight was 4.5 (± 1.1) kg. Twenty-three cats (8.2%) were classified as HCM positive, 14 (4.9%) as equivocal and 242 (85.8%) as HCM negative. Three cats (1.1%) were diagnosed with other heart disease and excluded from further analysis. The average diastolic wall thickness of the IVS and LVFW in the HCM affected cats were 7.0 (± 1.2) mm and 7.1 (± 2.4) mm, respectively. In the HCM negative group the corresponding measurements were 3.9 (± 0.5) mm and 3.8 (± 0.5) mm. Male cats had a significantly higher occurrence of HCM (20.4%) compared with the females (2.1 %) corresponded to an odds ratio (OR) of 12.7 (95% CI 4.2–38.6) for male gender (p < 0.001). No effect of weight and age on presence of HCM could be identified. Eighteen of the HCM positive cats had diffuse, symmetric hypertrophic changes of the entire left ventricle, whereas 5 had an asymmetric or regional hypertrophy of the left ventricular myocardium.

The conclusion of this study is that the BSH in our cohort had a high occurrence of HCM. Most affected cats presented with pronounced, diffuse hypertrophic changes affecting the IVS, LVFW and papillary muscles. As in many other breeds, male gender predisposed to development of the disease.

EFFECTS OF RUNNING ON THE RENIN-ANGIOTENSIN-ALDOSTERONE SYSTEM IN DOGS.

Familial hypertrophic cardiomyopathy (HCM) has previously been described in British Shorthair cats (BSH), but until now, no reports have been published on how prevalent the disease is within this breed. The aim of this study was to assess the occurrence of HCM in a large cohort of BSH and to evaluate the effect of gender, weight and age as potential risk factors to presence of the disease.

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