Evaluation of Variability of Echocardiographic Estimates of Pulmonary Arterial Hypertension in Dogs

Pulmonary hypertension (PH) is a common clinical abnormality in dogs associated with clinical signs including but not limited to coughing, exercise intolerance, weakness, fainting or passing out, and right sided congestive heart failure contributing to poor outcome. Therefore, fast and reliable determination of pulmonary hypertension is of great clinical importance. Doppler echocardiography (DE), in particular tricuspid regurgitation (TR)-based DE pressure estimates, are the clinical gold standard method in the non-invasive estimation of pulmonary artery pressure (PAP) but are subject to a variety of independent factors influencing their accuracy. Recording and measurement error as well as effects of physiologic stressors have all been identified as independent factors leading to inaccurate pressure estimates. Although knowledge on principal components influencing DE hemodynamic estimates are well known and have been applied to a variety of echocardiographic variables used in the assessment of cardiac function over the past 40 years, variability of DE indices of PH has never been studied in people, dogs, or cats. This is surprising as such estimates provide relevant clinical and prognostic information. Moreover, effective treatments for PH became recently available, and DE has been used repeatedly in the evaluation of treatment efficacy. We hypothesized that DE methods used in the assessment of PH are affected by a variety of independent factors causing clinically relevant variability of pressure estimates.

Inclusion Criteria

✔ Healthy asymptomatic dogs with a TR murmur
✔ Dogs with mild to moderate pulmonary hypertension based on TR
✔ Dogs with severe pulmonary hypertension based on TR

Study Design

A baseline echocardiographic study will be done to identify suitable dogs. Dogs then will complete the six minute exercise test (an easy leash walk for six minutes). An echocardiogram will be performed before and after six minutes of exercise, and after sedation. The sedation protocol is consistent with the standard of care for cardiology patients undergoing echocardiography.

Client Cost

Owners cover all regular costs (regular exam fee and charges for a comprehensive echocardiographic study).

Client Compensation

• Sedation and the study echocardiography are to be covered by the study.
• Clients will receive $200 towards their bill if enrolled.

Contact

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Biomarkers of toceranib benefit the dogs with pulmonary metastatic osteosarcoma

Background

Osteosarcoma (OSA) is a common cancer in dogs. Current treatment options include surgery, radiation therapy and various types of chemotherapy; however, there are essentially no effective treatments for dogs with osteosarcoma that has spread (metastasized) to the lungs.

Toceranib (PalladiaTM) is an oral drug that inhibits the function of a group of proteins important for cancer growth called receptor tyrosine kinases. Toceranib is approved by the FDA for the treatment of canine mast cell tumors, but there is preliminary evidence that some dogs with OSA may benefit from toceranib as well. This trial will help to define the factors that influence response to toceranib therapy and thereby guide future studies to maximize benefit in dogs with OSA.

The goal of this multi-centered trial is to evaluate the effectiveness of toceranib for the treatment of dogs with osteosarcoma that has spread to the lung, and to evaluate markers in the blood that may help to determine which dogs will benefit most from toceranib treatment.

Inclusion Criteria

To qualify for enrollment in this study, dogs must have:

- Dogs with confirmed OSA that have undergone limb amputation and have lung metastasis that is visible on chest x-rays.
- Dogs must undergo some diagnostic testing prior to starting the study to ensure that they are eligible, including bloodwork (complete blood count, chemistry profile), urinalysis and chest x-rays.
- Dogs must have good function of liver and kidneys, have acceptable blood cell counts, and be free of severe underlying disease.
- Concurrent use of other specific cancer drugs or homeopathic/alternative therapies is not allowed, but dogs that have been receiving nonsteroidal anti-inflammatory drugs are eligible to continue them at the discretion of the oncologist in charge.

Study Design

Initially your dog will undergo a series of diagnostic tests, which may include blood tests, urinalysis, blood pressure, and chest x-rays. The results of these initial tests will determine if your dog is eligible to enter this clinical trial. If deemed eligible, you will be sent home with oral toceranib to be administered to your dog 3 days per week. Rechecks will be required 2, 3, 4 and 8 weeks following the start of treatment.

This study is not randomized and there is no placebo group – all dogs will receive toceranib. If your dog is doing well on the toceranib, then he/she will continue to receive free drug as long as this disease in the lungs is stable or better and the toceranib is being well tolerated; rechecks will be required every 8 weeks to continue to receive the free toceranib.

Client Compensation

- Toceranib will be provided at no cost.
- The first set of repeat chest x-rays, after 8 weeks of treatment, will be covered (paid for) by the study.

Client Cost

You will be responsible for the costs of the initial examination and tests to insure eligibility to participate, the recheck examinations, most of the blood tests, and ancillary medications.

Client Contact

Please contact the Clinical Trials Office at the Veterinary Medical Center for more information about this study.
Welcome Our New Staff

SARAH RIPPY, DVM

Dr. Sarah Rippy completed her bachelors of science in neurology, physiology, and behavior at UC Davis in 2007 and her doctorate of veterinary medicine at UC Davis in 2012.

She has completed a one year rotating internship at VCA San Francisco and a one year oncology internship at the University of Missouri. She is excited to be a part of the Clinical Trials Office, and looks forward to continued work with cancer patients.

In her free time, Dr. Rippy likes to spend time exploring the festivals and restaurants around Columbus with her husband, go jogging with her boisterous dogs, and get bossed around by her feisty cats.

You can contact her at rippy.5@osu.edu

LILIANA MARIN, DVM, MSC

Liliana was born in Bogota-Colombia, were she received her degree as DVM (Doctor in Veterinary Medicine) from Universidad de La Salle in 2006.

Liliana previously worked at the Ohio State Veterinary Medical Center as the project coordinator of the Greyhound Health and Wellness Program. During this time, Liliana participated in several clinical research studies and published numerous scientific articles. Additionally, she completed a Masters in Veterinary Medicine from Ohio State in 2010.

Liliana enjoys traveling, spending time with her husband, family, and their cats.

You can contact her at marintorres.1@osu.edu

Are you interested in a CTO luncheon!

The CTO provides free luncheon events for all who are interested in learning about the resources available through the Ohio State Veterinary Clinical Trials and Ohio State Oncology service.

If your veterinary practice is interested please contact us!

cvm-clinicaltrials@osu.edu
Validation of a chemiluminescent parathyroid hormone assay and intraoperative and postoperative chemiluminescent parathyroid hormone monitoring in dogs undergoing parathyroidectomy for primary hyperparathyroidism

Primary hyperparathyroidism occurs when single or multiple parathyroid glands become hyperfunctional and secrete excessive intact parathyroid hormone (PTH), resulting in the development of hypercalcemia. Surgical excision of all hyperfunctional tissue is curative and rapid intraoperative PTH assays have become standard of care in people with PHPTH undergoing parathyroidectomy to confirm excision of the hyperfunctional tissue. A preliminary study has described similar findings in dogs.

The ADVIA Centaur Intact PTH assay (ioPTH) measures intact PTH concentrations and is used for routine and perioperative monitoring of PTH in people with primary hyperparathyroidism (PHPTH). This is a chemiluminescent assay which provides PTH concentrations within 30 minutes compared to the standard immunoradiometric assay which requires sending to the specimen to an outside lab and waiting 1-2 weeks for the result. We hypothesize that this assay can be used to measure canine PTH, that perioperative PTH monitoring will confirm excision of hyperfunctional tissue, and that documentation of increasing PTH concentrations will correspond with normalization of ionized calcium concentrations.

Persistent hypercalcemia causes suppression of the unaffected parathyroid glands; therefore the most common complication in dogs following parathyroidectomy is hypocalcemia. The current method of assessing a dog following surgery is to monitor ionized calcium levels, which doesn’t provide information about the function of the remaining parathyroid glands. As a result, dogs remain hospitalized for ongoing calcium monitoring and are supplemented with vitamin D analogs and calcium. There is paucity in the literature regarding dogs that are at a high risk of developing hypocalcemia, those developing sustained hypocalcemia, and there are no guidelines for supplementation. Monitoring PTH concentrations will provide a more accurate assessment of parathyroid gland function allowing patients to leave the hospital sooner, provide insight as to the mechanism of sustained hypocalcemia, and allow the clinician to more accurately provide vitamin D and calcium

Inclusion Criteria

To qualify for enrollment in this study, dogs must have:

✓ A standard work-up to diagnose primary hyperparathyroidism
✓ OR Dogs that are over 8 years old and clinically normal

Client Compensation

Client is responsible for all routine costs associated with surgery, but is not responsible for PTH monitoring and follow-up visits.

Study Design

Patients and their records will be reviewed to confirm documentation of PHPTH diagnosis, and if incomplete the remaining diagnostic tests will be performed. Patients will be treated with the standard of care for PHPTH by undergoing general anesthesia and surgical removal of abnormal parathyroid gland(s). Patients will have an additional 3ml of blood collected prior to surgery and after surgery. All patients recover in the ICU and ionized calcium concentrations will be monitored every 12 hours until normalization of ionized calcium. Patients will have an additional 2ml of blood collected at each calcium recheck for PTH monitoring. Follow-up visits to recheck ionized calcium and PTH occur 14 days and 3 months following surgery. Clinically normal dogs will have a physical exam and 4ml of blood collected once.

Client Contact:

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Welcome Class of 2018!

The Ohio State University College of Veterinary Medicine is pleased to welcome 162 first-year veterinary students.

VMC Enhancement and Expansion

The Ohio State University Board of Trustees approved the first phase of the Expansion and Enhancement of the Veterinary Medical Center (VMC) on June 6.

Phase One of the construction will include a newly renovated Intensive Care Unit for the Hospital for Companion Animals and a free-standing addition to the existing hospital building that will incorporate faculty and staff offices, as well as conference spaces for meetings and teaching. The $30 million project calls for construction and renovation of a total of 57,000 square feet of space at the hospital. The construction contract amount for Phase One is $13.8 million.
Please click on the links below or visit our website [http://vet.osu.edu/vmc/clinical-trials](http://vet.osu.edu/vmc/clinical-trials) to find out more information about other clinical trials

**EQUINE**

- Cell-Mediated Bone Morphogenetic Protein Gene Therapy for Bone Healing in Horses
- DSCD cells for the treatment of painful and inflammatory musculoskeletal conditions of the lower limb
- Effectiveness of topical fentanyl for musculoskeletal pain in horses

**ORTHOPEDIC SURGERY**

- A Randomized Clinical Trial of Cemented versus Cementless Total Knee Replacement (TKR) in Dogs
- Use of Intra-articular Autologous Protein Solution to Improve Lameness in Dogs with Osteoarthritis
- The use of the Harmonic Aries Blade in clinical canine patients undergoing spinal surgery – Blinded, randomized clinical trial in dogs

**OPHTHALMOLOGY**

- Histological effect of semi-conductor diode laser trans-scleral cyclophotocoagulation on buphthalmic equine globes

**DERMATOLOGY/OTOLOGY**

- Brainstem auditory evoked response testing in normal hearing cavalier king charles spaniel dogs

**NEUROLOGY**

- Assessment of an electronic Von Frey device for evaluation of sensory dysfunction in Cavalier King Charles Spaniels with and without Chiari malformation/syringomyelia
- Novel application of kinematic magnetic resonance imaging for evaluation of cervical spondylomyelopathy in dogs

**INTERNAL MEDICINE**

- Vitamin D metabolites, parathyroid hormone and fibroblast growth factor-23 – Klotho Axis in dogs with various stages of chronic kidney disease
- Assessment of Amino Acids and Inflammation in Dogs with Protein-Losing Nephropathy

**CARDIOLOGY**

- Dual-source, multi-slice computed tomographic angiography of the coronary arterial circulation of the English bulldog
- Evaluation of Variability of Echocardiographic Estimates of Pulmonary Arterial Hypertension in Dogs

**SURGERY**

- Effect of Prewarming on Perioperative Hypothermia in Small and Toy-breed Dogs
- Validation of a chemiluminescent parathyroid hormone assay and intraoperative and postoperative chemiluminescent parathyroid hormone monitoring in dogs undergoing parathyroidectomy for primary hyperparathyroidism
ONCOLOGY/RADIATION ONCOLOGY

- A Pilot Study of Vinblastine/Palladia Therapy for Canine Transitional Cell Carcinoma
- COTC007b: Preclinical Comparison of Three Indenoisoquinolines Candidates in Tumor-Bearing Dogs
- Inhibition of JAK2/STAT3 signaling by toceranib phosphate (Palladia)
- Biomarkers of toceranib benefit the dogs with pulmonary metastatic osteosarcoma
- Impact of treatment with tetrathiomolybdate (TM) in dogs with appendicular osteosarcoma
- Prospective, multicenter, randomized, double-blind, placebo controlled, phase 3 study to compare efficacy and safety of masitinib to placebo in grade 2-3 non-resectable MCTs in dogs not previously treated by chemotherapy or radiotherapy.
- Phase I safety evaluation of STA-12-8960 in dogs with spontaneous tumors
- A Phase I dose escalation study evaluating the safety and efficacy of RV1001, an isoform selective PI3K inhibitor, in dogs with lymphoma
- An Exploratory Study of the Safety and Efficacy of ACP-196 in Spontaneous Canine B-cell Lymphoma

CRITICAL CARE

- Assessment of coagulation before and after packed red blood cell transfusion in dogs using thromboelastography.
- Gastric and Buccal Microcirculation in Dogs
- Microcirculatory Changes in Dogs with Gastric Dilatation-Volvulus
- Evaluating the Genetic Basis of Immune-Mediated Hemolytic Anemia and Immune-Mediated Thrombocytopenia
- Decompressive cystocentesis for treatment of feline urethral obstruction

Contact the Clinical Trials Office
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