VMC Specialist, Referring Veterinarian Collaborate in Diagnosis and Management

A rare cardiac case at the Veterinary Medical Center (VMC) demonstrates how ongoing collaboration between VMC specialists and referring veterinarians benefits patients and informs diagnosis and care management.

In 2014, three-year-old Gracie, a Sheltie, was referred by her local veterinarian to the VMC Neurology and Neurosurgery Service, where team members, not finding any neurological damage, sent Gracie to Dr. Karsten Schober, professor and head of the Cardiology and Interventional Medicine Service. According to her owners, Gracie had a history of collapsing after exercise, but without losing consciousness.

From the Director

While spring produces an uptick in emergencies, rarely seen disorders or unusual injuries can appear at anytime. In this issue of Update for Veterinarians we focus on two such cases.

Dr. Karsten Schober, professor and head of the VMC Cardiology and Interventional Medicine Service, highlights the collaboration between the cardiology team and the patient’s local veterinarian in diagnosing and managing a rare congenital heart disorder in a dog. Equine surgeon Dr. Alison Gardner in the Hospital for Farm Animals and Galbreath Equine Center shares her team’s effort to uncover and successfully address a bladder rupture after the patient sustained an abdominal injury.

Both cases involved diagnostic investigations and clinical decisions that saved patient lives. They are just a few examples of the high level of service the VMC provides you, your clients and patients.

Meanwhile, the newly renovated Small Animal Orthopedic Service at VMC–Dublin will serve all orthopedic surgery patients and clients through September 2017 as part of the VMC Enhancement and Expansion Project. See page 2.

Please let us know how we are doing. I welcome your comments and suggestions.

Karin Zuckerman, MHSA, MBA
VMC Director
“Gracie’s case was unusual in that she did not have a heart murmur, which most dogs with relevant heart disease such as a patent ductus arteriosus (PDA) have,” said Dr. Schober. A common congenital heart defect in dogs caused by failed fetal duct closure after birth, PDA occurs when blood shunts from the left to the right (aorta to pulmonary artery).

In rare cases, the disorder presents as a reversed shunt (right-to-left). This causes systemic hypoxemia and increases red blood cell production, thickening the blood and producing a precarious, life-threatening situation. A key sign of reversed PDA is hind limb weakness. When Gracie’s hind legs went down during a short test walk, Dr. Schober ordered a blood test, chest films and an echocardiogram. The tests showed right heart enlargement and pulmonary hypertension. Injected contrast material diverted to the lower part of the body suggested aberrant blood flow through an abnormal shunt vessel.

“Gracie’s vaginal mucous membranes had also turned blue, another indicator of reversed PDA,” Dr. Schober said. The patient’s relative red blood cell count was elevated to about 75 percent, compared with a normal count of 35 to 55 percent. “We diagnosed her within an hour,” he said.

To thin the blood, the team removed some of Gracie’s red blood cells to a safe level of less than 65 percent, administered intravenous fluid, and started her on Sildenafil, commonly known as Viagra, to enhance blood flow to the lungs and thus reduce shunt flow.

She responded well to the initial treatment and was sent home the same day she was admitted, with a prescription of Sildenafil three times a day, regular hydration, and with a caution to her owners to limit exercise and stress.

“Reversed PDA is not an easy diagnosis,” said Dr. Schober, who has been in regular contact with Gracie’s local veterinarian, Dr. John Ciucă ’91. Dr. Ciucă sees Gracie two to four times a year for a physical and blood cell count. Once a year Gracie visits the VMC for an echocardiogram. The regular contact with Dr. Schober on Gracie’s care is reassuring, Dr. Ciucă said. “It’s wonderful to have specialists you can contact and get help with on the more complex cases. Reversed PDA is definitely not something you can just diagnose on a physical exam.”

“Most dogs with reversed PDA die early in life,” he said, “but if you diagnose early and prevent the blood from becoming too thick, the dog can have a relatively normal quality of life.” Three years after diagnosis, Gracie is still clinically stable.

# VMC Enhancement & Expansion Project - VMC–Dublin

Orthopedic surgery services will temporarily operate (April-Sept 2017) within the newly renovated VMC–Dublin.
Abdominal Injury Reveals Bladder Rupture

On January 15, 2017, Clyde, a two-year-old quarter horse, was admitted into the Galbreath Equine Center Emergency and Critical Care Service after sustaining a left flank laceration, presenting with signs of colic. The young colt had injured himself after he ran and slid into a fence.

Dr. Alison Gardner, equine surgeon and emergency and critical care fellow, evaluated the colt. While from the outside, the laceration didn’t appear deep enough to damage the internal organs, Dr. Gardner’s immediate concern was whether the impact of the fall had injured intra-abdominal viscera.

After a cursory ultrasound identifying moderate free fluid within the abdomen, the team evaluated the horse’s belly fluid, which showed it to be “grossly abnormal in coloration,” said Dr. Gardner.

Surgery indicated the bladder had a very large tear along the entire dorsal surface, and because it was not full, it was more difficult to exteriorize and repair. Even more critical to Clyde’s anesthetic status was that the tear allowed a significant release of potassium into the abdominal cavity and subsequently the vasculature, which threatened cardiac function.

Dr. Gardner credited Dr. Bryce Dooley, a third-year equine anesthesia resident, for her work in such a case involving a large amount of potassium in the blood.

“Hyperkalemia is difficult to correct, especially with a horse under anesthesia, and Dr. Dooley was able to do that successfully. She saved this horse’s life.”

Despite some difficulty, the bladder tear was corrected through a novel approach mainly used for removal of bladder stones. “Dr. Katy Dern, our third-year surgery resident, helped me out with this one,” said Dr. Gardner. “This was obviously a team effort.”

Equine CE Focuses on Wetlab Instruction

Equine referral veterinarians from numerous states attended an Equine Service CE day on March 10. Dr. James Belknap, Dr. Teresa Burns, Dr. Laura Dunbar, Dr. Margaret Mudge, and Dr. Jonathan Yardley lectured and provided wetlab instruction in ultrasound and endoscopy. A special thank you to Boehringer Ingelheim, Sound® and Pro Scope Systems for their support in making this CE possible.
Dogs Needed for Clinical Trials

The VMC Blue Buffalo Veterinary Clinical Trials Office continues to enroll cats and dogs for clinical trials. Two of the current studies focus on dogs, one of which examines the treatment of canine acral lick dermatitis (ALD), also known as lick granuloma, a difficult-to-treat disease that often results in a proliferative and ulcerative lesion. The study seeks to determine whether laser therapy is an effective treatment to reduce compulsive licking.

All patients will receive a physical and dermatologic exam; dermatology tests; a radiograph of the affected limb; treatment with oral medications; and actual or sham laser therapy. At the trial’s end, clients will receive a free six-month supply of an oral or topical flea preventative. Owners are responsible for the initial consultation fee of $125; other diagnostic and treatment costs are covered by the study.

The Clinical Trials office also seeks dogs with mast cell tumors that have been removed down to microscopic disease and have no obvious evidence of tumor spread. The study aims to determine whether a protein found in the patient’s epithelial cells can predict the onset and severity of GI side effects in dogs treated with toceranib (marketed as Palladia).

Patients will have weekly blood samples taken at the VMC for four consecutive weeks, with a CBC performed on day 14. Clients will receive four months of Palladia at no cost.

For more information and inclusion criteria for both clinical trials, contact the Clinical Trials Office at 614-247-8706 or cvm-clinicaltrials@osu.edu. The office currently has 17 clinical trials actively recruiting dogs or cats, and will soon be recruiting for others. For a list of current trials, please visit vet.osu.edu/vmc/cto/clinical-trials.

Welcome New Faculty

Jessica M. Quimby, DVM, PhD
Associate Professor—Small Animal Internal Medicine
Dr. Jessica Quimby joins the VMC after having served as Assistant Professor, Small Animal Internal Medicine, at Colorado State University since 2014. She is a 2003 graduate of the University of Wisconsin-Madison School of Veterinary Medicine, completed a small animal rotating internship in Sacramento, CA, and spent two years in private practice. In 2012, she completed her residency in Small Animal Internal Medicine at Colorado State University, where she also obtained her PhD in Clinical Sciences. Dr. Quimby’s research interests include chronic kidney disease in cats, specifically: renal aging, telomere length and cellular senescence, and novel treatment and evidence-based supportive care strategies for kidney disease.

Transitions and Departures

Dr. Audrey Wanstrath has transitioned from instructor-practice to clinical assistant professor in the VMC Small Animal Surgery Service. She completed her Small Animal Surgery residency at the VMC in 2015.

Dr. Joshua Daniels, clinical associate professor, will leave the VMC in June to join the faculty at Colorado State University.

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