Getting to the Heart of the Matter

Updates in Canine Cardiology

By Terri Cole, DVM DACVIM

February brings Valentine Day along with matters of the heart. What a fitting time to review new literature on canine cardiology!!

Not so recent, but well worth a reference, is the 2009 ACVIM “Guidelines for the Diagnosis and Treatment of Canine Chronic Valvular Disease”. Developed by ACVIM cardiologists, this consensus statement proposed a four-stage classification system for valvular disease in dogs.

Stage A = patients at risk for developing heart disease
Stage B = patients with structural heart disease but no heart failure
Stage C = patients with current or past heart failure
Stage D = patients with end stage/refractory congestive heart failure

Utilization of this system permits recognition of progression of patients’ cardiac disease over time as well as assessment of appropriate therapeutics at each stage. While the former article focused on how to treat dogs with congestive heart failure, a 2011 study focused on how to predict impending heart failure in Cavalier King Charles Spaniels. Ninety-four Cavalier King Charles Spaniels were evaluated for the rate of change of cardiac size based on yearly chest x-rays.

In this study was greatest in the 1-12 months prior to onset of congestive heart failure. In this study, an increase of >0.08 VHS units/month increased the likelihood that a patient with clinical signs would have a correct diagnosis of congestive heart failure. Additional studies are required to define if this is applicable to all dogs with mitral valvular disease.

For dedicated owners, I recommend thoracic radiographs every 6-12 months. Dogs with a higher rate of change in their VHS may benefit from more vigilant monitoring for onset of congestive heart failure. This can include having owners keep a log of sleeping respiratory rates and frequency of cough. Increased sleeping respiratory rate (>30 breaths per minute at sleep) and increased cough may be markers for onset of pulmonary edema. Owners noting these changes should schedule an evaluation with their DVM, ideally before the patient presents in a crisis.

Finally, two recent articles published in the November/December 2012 Journal of Veterinary Internal Medicine focused on recognition and treatment of occult dilated cardiomyopathy (DCM) in Doberman Pinschers. DCM affects a high percentage of dogs with only VPCs. While a genetic marker has been developed, it does not detect all dogs at risk. Occult DCM in Doberman Pinschers may manifest with ventricular premature contractions (VPCs), myocardial dysfunction (increased left ventricular chamber size at end systole) or both.

Many of these occult dogs will progress to clinical disease with signs including syncope, heart failure, and sudden death. Once clinical disease is present, median survival times drop to <6 months, according to most studies. Unfortunately, identification of the occult phase may be difficult and requires detection of ventricular arrhythmia, decreased myocardial function, or both. With new information indicating treatment during the occult phase may prolong this asymptomatic period, identification of these patients takes on new importance.

A recent prospective study evaluated the ability of a cardiac biomarker (NT-proBNP) to detect occult DCM in Doberman Pinschers. While NT-proBNP had poor ability to detect the dogs with ventricular arrhythmias in this study, it displayed improved ability to detect dogs with echocardiographic changes (dilated left ventricular chamber). The combination of NT-proBNP and Holter monitor was the best in detecting occult DCM with high sensitivity (96%) and diagnostic accuracy (91%).

Because occult DCM can develop over time, annual screening is typically recommended starting after 3 years of age. While a single normal NT-proBNP does not rule out future development of DCM, an elevated NT-proBNP (particularly when paired with Holter monitoring) may be useful to determine when advanced diagnostics including echocardiogram may be indicated.

Once occult DCM is diagnosed, the question turns to treatment. The PROTECT study evaluated the effect of pimobendan therapy in Doberman pinschers with occult DCM in the United Kingdom, United States and Canada. In this study, pimobendan administered to Dobermans with occult DCM prolonged the median time to onset of congestive heart failure or sudden death by 9 months compared to Dobermans that received placebo.

It is important to note that dogs in this study all had echocardiographic evidence of dilation of the left ventricle, thus extrapolation of this data to dogs with only VPCs may not be appropriate. Future studies are in the works to answer this question and applying it to other breeds with DCM.

These studies highlight the ongoing efforts to advance cardiac care in veterinary medicine. Diagnostics and therapeutics to help improve the lives of our canine companions—what’s not to love!

References:

Available on request.
NEWVMA Invites You to a Public Meeting:

What: An opportunity to meet with Secretary Dave Ross, of the Wisconsin Department of Safety and Professional Services, to learn about new programs and to discuss issues involving the WDSPS.

Topics the NEWVMA Board would like to discuss with Secretary Ross include:

• The Prescription Drug Monitoring Program (PDMP) and how it affects small veterinary businesses
• Unlicensed veterinary practice by lay people and what measures can be done to enforce the law
• Ways the department is working to communicate with veterinarians in a timely and consistent manner

Who: Any interested person involved in veterinary medicine. We invite you to participate in this public forum to learn more about the initiatives of the department and to share your opinions and views.

When: Tuesday March 12th at 6:30 pm

Where: Second Floor Conference Room of the Fox Valley Animal Referral Center, Appleton, WI

Details: A buffet dinner will be provided by NEWVMA for guests who RSVP

RSVP: Through the NEWVMA Office at info@newvma.org or by leaving a message with the names of people attending at 920-931-ZVMA

2013 WVMA Winter Retreat

Date: March 1-3, 2013

Where: Glacier Canyon Lodge & Conference Center, Wisconsin Dells, WI.


Jessica Goodman Lee will focus in on teamwork and its effects on patient care, retention and the bottom line. In addition, she will unveil the newly created Partner’s for Healthy Pets Preventive Care Plan Toolbox for veterinarians and clinic teams. You won’t want to miss this year’s retreat! This event is geared toward the entire clinic team!

Speaker: Jessica Goodman Lee, CVPM

Registration: www.wvma.org

Don’t forget to visit us on Facebook for breaking news and pictures. A link can be found on our website at www.fvarc.com at the bottom of the page or click the graphic above.

I have always felt a strong connection with animals.

Stacie Griesbach, Reception Supervisor

It is my mission to ensure that every client is comfortable at the referral center and senses how much we care. It is my contribution to strengthening the human animal bond.

To read more about Stacie Griesbach click here.

"Stop, In the Name of Love!"

How do you know you are an effective leader?

Does your hospital provide the staff with opportunities to share their thoughts about the performance of their managers and practice owners? An easy “Stop-Start-Continue” form can be created and submitted to the staff. Staff would be instructed to provide the following:

(1) three things they would like to see their manager or practice owner Stop, (2) three things they would like to see them Start, and (3) three things they want them to Continue. The input can be anonymous and can be pertaining to a specific individual or the leadership in general, although pertaining to a specific individual is the most effective format.

The person receiving this information reviews and compiles the results. This is a simple way to gather constructive input for individuals in positions of leadership to help them understand how their behaviors and decisions are impacting the health of the practice team. In addition, presenting the information during a staff meeting is a useful way to open up lines of communication, engage staff and help everyone know that their contribution is valuable. This collaborative effort allows everyone to work as a team in creating a better practice environment.

Idea submitted by: Alyce D’Amato, CVT, CVPM Executive Director Horizon Veterinary Services

Authored by: Andrea Battaglia, LVT Section Supervisor ICU Cornell University Hospital for Animals

"You give me that loving feeling!"

JorVet makes a nice fluid warmer called the “Bullpen” which we use to warm fluids and mannitol.

I like to use the warm fluids for giving SQ fluids, especially for cats, for the following reasons:

1. Well tolerated.
2. Absorbs much better.
3. Does not make geriatric patients as cold.

Judy Freeman CVT, VTS(ECC) Internal Medicine Coordinator Radioactive Iodine Coordinator Fox Valley Animal Referral Center

JorVet makes a nice fluid warmer called the “Bullpen” which we use to warm fluids and mannitol.