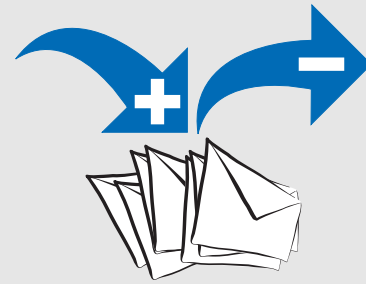


Help us Update our Mailing List



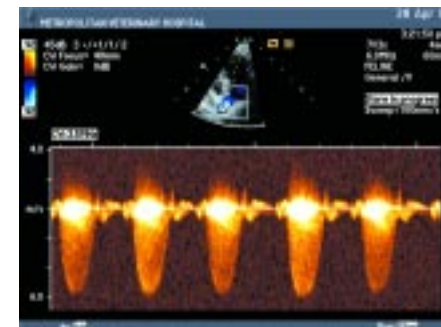
You can assist in our efforts to keep pace with the changing local veterinary population. If you are receiving copies of this newsletter for someone no longer at your practice or need to inform us of an addition to your clinic, please call Kelli Riley, receptionist for Northeast Ohio Internal Medicine Associates. She also will update our hospital referral database at the same time. You can reach Kelli at 330-670-2355. Thank you!

Balloon Valvuloplasty for the Treatment of Pulmonic Stenosis

by Kirstin N. Boddy, DVM, MS, DAVCIM (Cardiology), Ohio Veterinary Cardiology

Balloon valvuloplasty (BV) is most commonly used for the treatment of valvular pulmonic stenosis (PS). Pulmonic stenosis is one of the most common congenital defects found in canine patients. Valvular PS can be broken down into Type 1 and Type 2 abnormalities. Type 1 includes thickened valve leaflets with fused commissures leaving a central orifice. Type 2 is characterized by moderate to severe thickening of leaflets with concurrent hypoplasia of the leaflets, annulus or both. In the latter cases, there is often an obstruction secondary to redundant leaf tissue.

Once the diagnosis of PS is confirmed and the severity is assessed, treatment with balloon valvuloplasty is usually recommended. Any patient with severe valvular PS or with clinical symptoms should be treated to increase chance of survival, decrease symptoms and hopefully decrease chance of sudden death. The most recent studies have shown that patients with clinical symptoms face 16 times the risk of sudden death.



Spectral Doppler continuous wave flow across the stenotic lesion showing increased pressure gradients.

The Procedure

Balloon valvuloplasty is performed with fluoroscopic guidance under general anesthesia. The procedure can be performed through a jugular venotomy or a percutaneous approach using the Seldinger technique. Occasionally, the femoral vein may be used as well. The

lesion is further characterized via angiographic studies after catheter placement. Direct pressure measurements are made through pressure "pullouts" to reiterate the confirmation of the lesion. Balloon size is determined through measurements that are made with an echocardiograph. The appropriate sized balloon is floated across the pulmonic valve and dilated with a mixture of saline and dye, with the hope that the valve will be dilated enough to allow a significant reduction in the gradient across the valve. A successful reduction is typically a gradient that is reduced by 45 percent to 50 percent.

Dogs with pulmonic stenosis may be asymptomatic or exhibit clinical symptoms. The most common clinical symptom is syncope during excitation, as the obstructive lesion ultimately decreases blood flow to the brain. If there are concurrent tricuspid valve abnormalities, right-sided congestive heart failure (pleural effusion, ascites and hepatomegaly, jugular distension and pulsation) may proliferate. Often there are no clinical symptoms and young dogs are referred to a cardiologist because



Right parasternal long axis 2-D view showing the right heart eccentric and concentric hypertrophy as the right heart has become almost equal in size to the left heart.

they have presented with ECG abnormalities (right bundle branch block, right ventricular hypertrophy patterns, ventricular arrhythmias), radiographic abnormalities (post-stenotic main pulmonary artery dilation, right heart prominence) and/or left basilar ejection murmurs.

Diagnosis

To diagnose and grade the severity of PS, a pressure gradient across the pulmonic valve must be obtained. This value can be captured directly via intracavitary pressure measurements or indirectly via Doppler echocardiography. Direct measurements are gathered under general anesthesia. As a result, they are typically less than the

indirect measurements. Echocardiography allows for the non-invasive diagnosis of PS. Echocardiographic severity is based on the pressure gradient across the valve. Mild is less than 50 mm Hg, moderate is between 50 and 80 mm Hg and severe is greater than 80 mm Hg (some references use 100 mm Hg as the upper cut-off value between moderate and severe).

When comparing patients who have received BV with those that have not, the latest studies show a 53 percent reduction in hazard rate in cases treated with BV. Of the patients that were not treated with BV, 34 percent died or were euthanized secondary to clinical signs associated with their PS.

This does not mean that BV is a guaranteed way to alleviate PS, as there are certain inherent risks associated with the procedure. These risks include excessive bleeding, acute pericardial tamponade due to ventricular or atrial perforation, worsening tricuspid regurgitation due to catheter damage of the valve, malignant arrhythmias from dye injection into the myocardium or other catheter-related damage, right bundle branch block (usually transient) and/or anomalous coronary artery damage. There are rare occasions where it is not possible to get the balloon across the tricuspid valve and into the pulmonary artery.

Despite these risks, the procedure has a very good success rate. There is an 80 percent improvement rate in dogs with symptoms secondary to the disease. Dogs with Type 1 lesions have an almost 100 percent success rate, while two-thirds of dogs with Type 2 lesions experience a successful procedure.

In rare instances, there are cases that do not appear amenable to BV. There may be surgical options for those patients.

The First Patient

It's interesting to note that there is a genetic breed predisposition in Boxers and English Bulldogs for an anomalous coronary artery that is associated with PS. Balloon valvuloplasty is quite difficult in these patients, as care must be taken not to rupture the coronary artery with the balloon. Such an occurrence results in surgical death. Ironically, the first canine patient who underwent the procedure back in 1980 was an English Bulldog. Because the treatment was still in its infancy, it was not yet known how sensitive this breed could be to the procedure. In a stroke of luck, the balloon used in the surgery was actually too small for a dog of comparable size. In this case, the small size of the balloon probably prevented the canine patient from dying during surgery. The death of the very first patient could have had far-reaching implications for the future of the procedure. We might not be talking about it today.

If you have any questions regarding balloon valvuloplasty, please do not hesitate to call either Dr. Hitchcock or Dr. Boddy from Ohio Veterinary Cardiology, Ltd. at 330.670.2360 or 330.666.2976.



Specialist Spotlight:

New Therapy for Collapsing Trachea

by Sheldon Padgett, DVM, MS, DACVS

Collapsing trachea is a degenerative collapse of the tracheal rings, often leading to progressive exercise intolerance, cough and dyspnea, usually in small-breed dogs. Conventional therapy consists of stenting the external surface of the trachea by surgical placement of polypropylene rings. Patients who undergo this surgery can do well for a period of time. However, there is a risk of laryngeal collapse due to damage to the recurrent laryngeal nerve. There also are concerns about partial tracheal necrosis due to segmental blood supply. Another disadvantage is that this surgery is only an option for animals with extrathoracic (cervical) tracheal collapse.

Veterinary professionals have been seeking a better solution. Many different types of internal stents have been deployed in the trachea, but none have had complication rates low enough to be widely accepted.

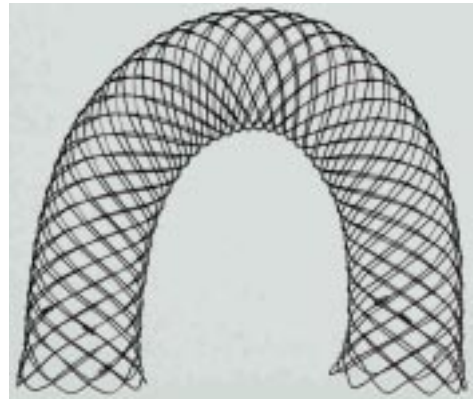
A new generation stent designed specifically for veterinary use is showing promise in the treatment of tracheal collapse. Made of nickel-titanium alloy, they are of appropriate size to stent the entire trachea and allow treatment of intrathoracic collapse. It is placed using fluoroscopy, precluding the need for any surgery. Dr. Sheldon Padgett of Veterinary Surgery Services of Northeast Ohio has received advanced training in the procedure and has been placing the stents for more than six months.

After initial consultation, the diagnosis of collapsing trachea is confirmed using fluoroscopy. Measurements of maximum tracheal diameter are taken while the patient is under anesthesia. Most patients can have the stent placed under that same anesthesia. Patients are usually kept in the hospital for two days after placement.

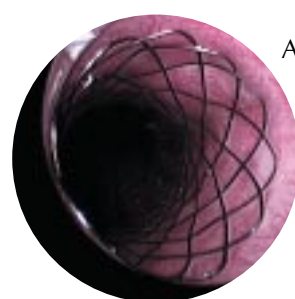
Patients are considered candidates for the procedure if they have moderate to severe collapsing trachea with significant quality of life issues. Owners should have already exhausted other medical therapy, as some

patients can survive for long periods on these options alone. It is important to note that most patients receiving a stent still experience a cough that requires medical therapy. The goal of the placement procedure is to give the patient that has a life-threatening disease an airway that will lead to a much better quality of life with minimal complications.

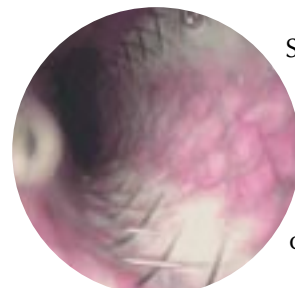
If you have any questions or would like to refer a patient for intra-tracheal stenting, please contact Dr. Sheldon Padgett of Veterinary Surgery Services of Northeast Ohio.



Example of a nickel-titanium self-expanding stent, which is placed inside the trachea.



A stent immediately after deployment, as seen with an intra-tracheal scope.



Scope appearance of a stent three months after placement. Note incorporation of the stent into tracheal mucosa.

Practice Points

Drs. Foss and Belknap of **Veterinary Ophthalmology Services of Northeast Ohio** have been taking advantage of the capabilities of their new Alcon® phacoemulsification machine for cataract surgery. Both doctors continue to encourage early referral of patients with cataracts. Please call 330.670.2360 if you have any questions.

Northeast Ohio Internal Medicine Associates has added a resident in internal medicine. Dr. Bradley Stephens is a 2005 graduate of the University of Georgia. He recently completed an internship in small animal medicine and surgery at Purdue University and Northeast Indiana Veterinary Emergency and Specialty Hospital. His areas of interest include infectious diseases, endocrinology and renal disease. Please join Dr. Turner and Dr. Jennings in welcoming Dr. Stephens to their team. The practice can be reached at 330.670.2355.

North Coast Bird and Exotic Specialties is dedicated to the medical and surgical management of a full range of exotic pets – birds, ferrets, rabbits, rodents, hedgehogs, potbellied pigs, reptiles and amphibians. We offer a wide variety of diagnostic and therapeutic services. In addition to internal medicine, anesthesia and surgery, we can address many of the unique problems encountered in exotic species, such as husbandry and nutritional counseling, beak and shell repair, and treatment of reproductive conditions. Patients are maintained in a separate ward to minimize stress, with housing designed to meet their specific needs. Patients are cared for by experienced registered veterinary technicians and technical support staff. Intravenous fluids can be administered through pumps designed to accurately deliver the small doses required. Oxygen cages and ultrasonic nebulization therapy also can be provided. In addition to radiography, special studies such as endoscopy, laparoscopy, ultrasound, fluoroscopy and even computed tomography (CT) scans are now available to many species. To reach the practice, call 1.877.NC.XOTIC (1.877.629.6842) or 330.666.2976.

Dancing Dogs Animal Wellness Center is pleased to announce that we are now accepting new behavior patients. Our approach includes training and behavior modification, pharmaceuticals, and holistic solutions such as diet change, nutraceuticals, herbs, acupuncture and chiropractic. We would like to welcome Leah Fausneucht to Dancing Dogs as our new practice receptionist. Also, we have changed our phone number to 330.664.6504. Please make a note of it. As always, we are happy to offer phone consults and e-mail consults at dancingdogs@metropolitanvet.com.

Ohio Veterinary Cardiology would like to congratulate Dr. Kirstin Boddy, who has completed the final requirement for board certification and is now a Diplomate of the ACVIM College of Cardiology. Drs. Hitchcock and Boddy have been busy in the Cath Lab recently. Since the opening of the fluoroscopy suite at MVH, we have implanted three pacemakers, performed two heartworm retrievals and done a pulmonic balloon valvuloplasty. All patients are doing well. OVC is seeking cats that have recovered from a thromboembolic episode for enrollment in the FATCAT multicenter study. The study compares the uses of Plavix (clopidogrel) and aspirin for prevention of recurrent thromboembolism. Cats must have a documented thromboembolic episode one to three months prior to enrollment and have echocardiographically documented myocardial disease to be considered for participation in the study. In addition to the study medication, which is provided at no charge, clients may receive compensation toward the cost of diagnostic testing. For more information, please contact Dr. Hitchcock or Dr. Boddy at 330.666.2976.



Future Notes

In-House Lecture Series

Please remember that we have an in-house lecture series that happens almost every Tuesday and Thursday at 7:00 a.m. It's early and very casual – bring coffee and show up in shorts if you want! Topics range from rotating lectures from all specialists in the hospital to radiology rounds and surgery journal club. Please check our Web site (www.metropolitanvet.com) for the schedule. Occasionally, there are last minute changes. If you want to confirm a topic, call Kelli Kuhl of Veterinary Surgery Services at 330.670.2358. We hope to see you there!

Coming Soon to a Breakfast Spot Near You



We are hosting breakfast meetings every other month in which MVRG specialists can join with 15 to 20 referring veterinarians for group discussions on selected topics. The first meeting will be in early October in the Medina area with the topic “The Dyspneic Cat,” hosted by Drs. Hitchcock (cardiology), Perdion (internal medicine) and Henrikson (radiology). Meetings will be held in other areas in the coming months. We've applied to the OVMB for continuing education credit.

Please contact Dr. Lori Hitchcock or Jim Sumner at 330.666.2976 if you would like an invitation, have a recommendation for a good breakfast spot convenient to you or have suggestions for a discussion topic. We look forward to seeing you.

October Community Open House

Please tell your clients about the upcoming open house at Metropolitan Veterinary Hospital. It is Sunday, Oct. 15, from 2 to 6 p.m. Your clients are welcome to attend. There will be fun and activities, special guests and tours of the facility. Also, remember we are always available for one-on-one tours for DVMs.

Contact Us

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