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MedVet Doctors Aid Canine Companions for Independence

Since 1993, MedVet ophthalmologists have been doing ocular examinations for Canine Companions for Independence (CCI). The exams are performed gratis at the CCI headquarters in Delaware, Ohio. These are done every three months to ensure that young dogs in training do not have ocular abnormalities that will impede their ability as service dogs.

CCI is a non-profit organization that

enhances the lives of people with disabilities by providing highly trained assistance dogs and ongoing support to ensure quality partnerships. Dogs are trained to assist people in wheelchairs and are also trained to assist the hearing impaired. MedVet is proud to contribute to this worthwhile cause. Dr. Milt Wyman particularly, has been a strong supporter and active participant in this relationship.

Calling all Cats with Clots!

MedVet's Cardiology Department is enrolling cats in a multi-center, double-blinded prospective clinical trial entitled: Feline Aortic Thromboembolism: Clopidogrel vs Aspirin Trial (FAT CAT).

This study is designed to determine the efficacy of clopidogrel (Plavix®) versus aspirin in preventing recurrence of feline aortic thromboembolism and to identify any potential adverse effects from chronic aspirin or Plavix® therapy. This study was initiated by Dr. Dan Hogan at Purdue University.

Cats that have had signs of *an aortic thromboembolism within the last three months* and have structural evidence of heart disease on an

echocardiogram are eligible for enrollment.

There is a financial incentive for owners which covers some (but not all) of the initial diagnostic and follow-up tests (initial echocardiogram, initial and follow-up office visits and some blood tests). Additionally, all study drugs (clopidogrel or aspirin) and all cardiac medications (may include enalapril, atenolol, furosemide, or digoxin depending on underlying heart disease) are provided at no cost to the owner for 12 months.

For further information regarding this study, please contact Dr. Linda Lehmkuhl or Dr. Eva Sikorska at 614-846-5800.

Staff in the News

Dr. Shawn Kennedy Passes Board Certification Examination



Shawn Kennedy
DVM DACVS

MedVet congratulates Dr. Shawn Kennedy on having passed The American College of Veterinary Surgeons board examination. This rigorous test is comprised of written, practical, and oral sessions and passing on his first attempt is an impressive accomplishment for Dr. Kennedy. He is now one of four board-certified surgeons at MedVet. Congratulations Dr. Kennedy on this great achievement.

Wymans Honored With Inspiration Through Achievement Award



Marlyn and
Milt Wyman

On February 4, 2006 the Midwest Veterinary Ophthalmology Society presented Milt and Marlyn Wyman with the "Inspiration Through Achievement" award. The award was presented to the Wymans because they "Embodiment the spirit of our profession: mentorship, education, teaching, research of the unknown, contributions to our professional knowledge and continued study." Congratulations to Milt and Marlyn.

Minoxidil Toxicity in Cats



Sarah Perdion DVM
Resident Internal Medicine

Sammy is a 7 year old male neutered domestic longhair feline who presented to MedVet for extreme lethargy and inappetence. Approximately 12 hours prior to presentation, a small amount of a 2% minoxidil containing solution was accidentally spilled on Sammy's ventral neck. Physical examination on presentation revealed depressed attitude, hypothermia, bradycardia, and tachypnea. Initial diagnostics revealed moderate elevation in BUN on biochemical profile, hypotension and the presence of pulmonary edema and mild pleural effusion on thoracic radiographs. Based on the history, acute onset of clinical signs, physical examination findings, and initial diagnostics, we determined that Sammy's signs were consistent with minoxidil toxicity.

Minoxidil is a systemic vasodilator that acts by binding to vascular smooth muscle potassium channels. It was originally developed as an oral anti-hypertensive medication in humans and has also more recently become available in a topical form used to stimulate hair growth. Initial studies found that the oral formulation was relatively non-toxic to rats, monkeys and miniature pigs, however cardiac lesions including coronary arterial injury, right atrial hemorrhage, and ventricular subendocardial necrosis were found in canines receiving the oral formulation. Dermal application in dogs did not produce any cardiac lesions. No safety studies were performed in cats.

In the past 6 years, the ASPCA Animal Poison Control Center (APCC) has received six reports of minoxidil exposure in cats. Cats may be exposed to minoxidil containing solutions either via intentional application to alopecic areas of skin or accidental exposure via spills or licking the solution. Cats may

be predisposed to toxicity due to the lack of glucuronidation enzymes that are needed to metabolize the drug to inactive metabolites (thus allowing more of the active metabolite to be formed) and/or increased oral absorption due to their grooming habits.

Clinical signs associated with minoxidil toxicity include lethargy, anorexia, increased respiratory rate and effort and usually develop within 12 hours of exposure. Physical examination findings may include recumbency, tachypnea, hypothermia, cyanosis or pale mucous membranes, bradycardia, tachycardia, weak femoral pulses, crackles, wheezes or decreased lung sounds. Diagnostics that should be performed include serial blood pressure due to the potential for hypotension, thoracic radiographs which may reveal evidence of pleural effusion, pulmonary edema or both, and biochemical profiles to monitor for azotemia (which may occur secondary to decreased renal perfusion) and elevated liver enzymes (which occur secondary to hypoxic injury). Additional diagnostics to consider include ECG and echocardiogram to determine if additional therapy is indicated.

Treatment recommendations include decontamination and supportive measures. Washing the exposed area thoroughly with liquid dishwashing detergent is recommended once the patient is stable, even 48 to 72 hours after initial exposure as prolonged skin absorption can occur. Fluid therapy will benefit urine formation (and there-

fore excretion of both the parent drug and metabolites) as well as to support blood pressure. However, caution must be exercised due to the potential for pulmonary edema. Pressor agents such as dopamine may be needed to support blood pressure and oxygen supplementation should be used as needed. Thoracocentesis should be performed as needed to provide relief and improve oxygenation.

Prognosis unfortunately is guarded. Of the six cases reported to the ASPCA APCC, only two were treated successfully. Those cases that succumbed to this toxicity died of pleural effusion, pulmonary edema and compromised cardiac function. Gross examination revealed pale streaks throughout all chambers of the heart while histopathology was consistent with myocardial interstitial edema.

Sammy was hospitalized in ICU for 5 days. He was aggressively monitored and treated with IV fluids, furosemide, dopamine continuous rate infusion, oxygen supplementation, and thoracocentesis as needed. At the time of release from the hospital, his attitude and activity level had significantly improved, however his appetite remained poor. He returned to "normal" according to the owner approximately two weeks after release from the hospital. At reevaluation three weeks after release from the hospital, Sammy was normotensive, had normal renal and liver enzymes, and had clear lungs on thoracic radiographs. Six months later, Sammy continues to do well.



Tibial Tuberosity Advancement for Treatment of Cranial Cruciate Ligament Rupture in Dogs



Matthew Barnhart DVM MS DACVS

Numerous surgical techniques have been described for treatment of cranial cruciate ligament (CrCL) rupture. Tibial tuberosity advancement (TTA) is the most recently described technique receiving a lot of attention in veterinary surgery. Essentially, a TTA works by allowing the quadriceps muscles to actively balance the tibia on the distal femur, thus minimizing the need for an intact CrCL to provide joint stability. This is achieved by advancing the tibial tuberosity until the straight patellar ligament is at a 90° angle relative to the tibial plateau (Figure 1). The tibial plateau leveling osteotomy (TPLO) procedure works by a similar concept but with a different execution. Instead, the tibial plateau itself is rotated until a near 90° angle relative to the patella ligament is achieved (Figure 2). Both techniques provide a stable, functional knee in the absence of an intact CrCL. The TTA however, appears to have

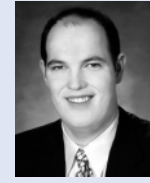
some advantages over the TPLO.

The main reported advantage of the TTA is rapid recovery. The majority of dogs are expected to be strongly weight-bearing on their operated leg *very* quickly (often within 48 hours) after surgery. This is likely due to the smaller cut in the bone required and the fact that the main load-transferring axis of tibia is not altered during surgery. This may be particularly advantageous in cases where rapid weight bearing is desired (concurrent orthopedic problems, large/heavy patients, etc.). TTA also appears to have a slightly lower complication rate than the TPLO and the implants used are smaller and thinner.

The TTA does have some limitations. It is not well suited for patients with steep tibial plateau angles and torsional deformities of the tibia cannot be corrected as can be with a TPLO. There are also currently no long-term reports on the effect of TTA on degenerative joint disease progression or limb function.

In summary, the TPLO is still the gold standard “state-of-the-art” surgery for treatment of CrCL rupture but the TTA is emerging as a complementary technique. TTA expands our repertoire of surgical procedures available for treatment the most common orthopedic condition in small animal surgery.

Emergency Case Study



Jay Ryan DVM

“Penny” is an 11 year old female spayed cocker spaniel mix who presented to the emergency service after eating approximately 11.5 oz

of dark chocolate. On initial physical exam, Penny’s heart rate was 240-260. Initial diagnostics performed included an ECG which revealed a supraventricular tachycardia. BUN, BG, PCV, electrolytes, and venous blood gas were all within acceptable limits.

Penny was given 0.26 mg propranolol IV to no effect on ECG; a second dose was given 5 minutes later and Penny converted to a normal sinus rhythm. As Penny had already vomited several times emesis was not induced. Once Penny’s cardiovascular status improved, 50 mls of Universal Animal Antidote was administered orally. An indwelling foley urinary catheter was placed to prevent re-sorption of the toxin from the urine.

Penny was admitted to ICU and monitored on continuous ECG. No further SVTs were noted. She was given Normosol-R + 15 meq/L KCl IV at 103 ml/hr. While in ICU she was given 5 mg of Valium IV three times for agitation and 6.5 mg of Pepcid IV once for nausea. By morning Penny was bright and alert with a heart rate of 120-130.

The toxin contained in chocolate is theobromine which can cause agitation, hyperactivity, seizures, tremors, ataxia, hyperthermia, tachycardia or bradycardia, arrhythmias, coma and death. The toxic dose of theobromine in dogs is 100mg/kg and dark chocolate contains 130-185 mg theobromine per oz. Signs usually occur within 1-4 hours of ingestion. Other ruleouts include ingestion of other methylxanthines (theophylline, caffeine), antihistamines, amphetamines, decongestants, or cocaine. Theobromine has a long half life and treatment may be needed for up to 72 hours. The prognosis is usually good with aggressive treatment in severe cases.

Figure 1

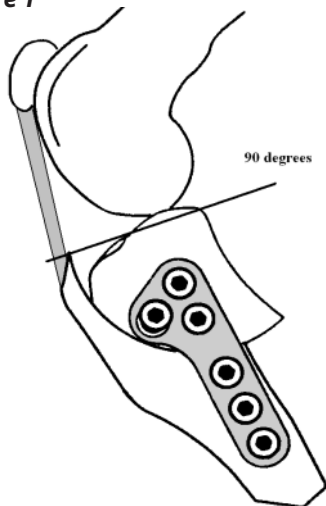
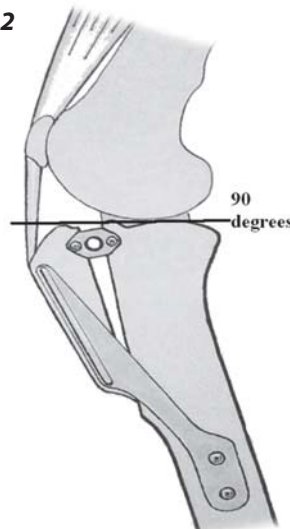


Figure 2



The Administrator's Corner



Douglas F. MacMillan, CHE
Hospital Administrator

It's spring, and you know what that means: Softball! Winter is over and so mercifully, is the basketball season. I don't know anyone who picked the final four this year and almost all of us here thought the **MedVet Big Dawgs** would have won a few basketball games, but hey, who knew? So looking forward, we have some great softball talent this year. The **MacKenzie Brothers (Jack and Brad)** will be back and our new recruit, **Dr. Carlos Aragon** (Surgery Resident) holds some promise. We even bought a new bat this year to go with last year's new ball!

It's also time to say goodbye to three outstanding veterinarians who

are finishing their residencies this spring. **Dr. Sarah Perdion** (Internal Medicine) will be moving just 2 hours north to join the Akron Veterinary Internal Medicine/Oncology Practice at Metropolitan Veterinary Referral Group. Sarah and her husband John will be moving a little closer to Sarah's family. **Dr. Jack MacKenzie** (Internal Medicine) is also headed North with his wife Lori and sons Hunter and newborn Andrew to the Chicago area. He'll be joining 6 specialists at the Animal Emergency and Critical Care Center in Northbrook, IL. Jack will be taking his Internal Medicine Boards in late May. Dr. Todd Riecks (Surgery) is really serious about getting out of Ohio. He will be joining Veterinary Specialists of Southern Colorado in Colorado Springs. Please join us in wishing the very best for these three very talented veterinarians!

We are very pleased to announce that one of our residents will be staying right here. **Dr. Terah Robbin** will be joining the MedVet Ophthalmology Department this summer after com-

pleting her residency. **Dr. Wyman** just can't stop smiling!

The **MedVet Charitable Foundation** recently received a large donation from Mr. and Mrs. Steve Schottenstein, making the planned **Paws Park** a reality. This park will honor and memorialize patients while providing a pleasant outside waiting and meditation area adjacent to the **MedVet** entrance. We're planning for an early July opening. Let me know if you want to contribute!

AND THE WINNER IS: **Dr. Bill Fenner** (Neurology) won the coveted Golden Crock Pot Award again in this year's second annual Super Bowl Chili Cook-off. He stated he would retire after winning two years in a row when one of the judges thought his chili tasted like a sloppy Joe. We feel your pain, Bill.

And finally, an update on **Drs. Eva Sikorska's** (Cardiology) and **Gwen Myers'** (Emergency) efforts to raise \$4200 each for the Leukemia and Lymphoma Society Triathlon in Florida. They are both fully funded and looking forward to the April 30 event.

The MedVet Charitable Foundation Presents:

Advances in Small Animal Surgery

Join us for Brunch and 4 hours of Continuing Education!

Topics will include:

- Bandaging Principles: From Casts to Wound Care
- Adrenal Gland Tumors: Treatment and Prognosis
- Review of Cranial Cruciate Ligament Disease
- GDV: What's New?
- Intestinal Surgery
- Tibial Tuberosity Advancement for Treatment of Cranial Cruciate Ligament Rupture

When: Sunday, June 11, 2006
from 9:00 a.m.–1:00 p.m.

Where: MedVet Hospital Conference Room
300 E. Wilson Bridge Road
Worthington, Ohio 43085

Speakers: Matthew Barnhart DVM MS DACVS
Shawn Kennedy DVM DACVS
Eric Schertel DVM PhD DACVS
Jen Lang DVM — Surgery Resident
Brad Mackenzie DVM — Surgery Resident

Free to referring veterinarians.

A tax-deductible contribution to The MedVet Charitable Foundation is encouraged.

Please RSVP to Patty Moriarty before June 8th by: fax: (614) 431-4418,
email: pmoriarty@medvet-cves.com or telephone: (614) 431- 4417 (direct line)

Veterinarians only please. Hurry — Space is Limited!