

Central Connection

Your Connection to Valley Central - FALL 2011



Leaders in Specialty Care

Greetings to you all:

The changing colors of the leaves reminds us that fall is a time of transition and reflection. It offers and opportunity to take pause, appreciate the world around us and the people that make our lives richer and fuller. We at VCVRC want to thank all of you for the important role you play in enriching our veterinary community and allowing us to serve you on a daily basis.

In this third quarterly issue of CENTRAL CONNECTION, we have included articles written by Dr. Mary Landis, Dr. Lee Simpson, Drs. Ezra Steinberg, Dr. Meg Sleeper, and Veterinary Nurse, Lauren Kelchner. Our newsletter will keep you updated on medical topics and new services being offered at VCVRC as a part of our ongoing commitment to our clients and the veterinary community. The doctors and staff at Valley Central want to thank you for your sustained and continued support. Our goal is to provide the highest standard of veterinary care for your clients. We understand that our success as a referral center is directly linked to your confidence in our veterinary service for your clients and patients. Please do not hesitate to contact any doctor or staff member with any questions or concerns regarding any aspect of our veterinary hospital services.

Allyson Tolliver, Hospital Administrator

IN THIS ISSUE:

- **OPHTHALMOLOGY**
Retinal Atrophy in Dogs
- **ACUPUNCTURE**
Chinese Medicine
- **SURGERY**
Surgery Article
- **CARDIOLOGY**
Atrial Fibrillation
- **NURSES TIP**
Detailed Histories

Updates From VCVRC:

Very pleased to announce Dr Jonathan Goodwin has joined our practice and Dr Meg Sleeper has rejoined our practice. Dr. Meg Sleeper graduated from the University of Pennsylvania veterinary school cum laude in 1993. After completing a rotating internship in medicine and surgery at Mid-Atlantic Equine Medical Center, she returned to the University of Pennsylvania for a residency in cardiology. She is also currently an associate professor of cardiology and the section chief since 2001 at the University of Pennsylvania. Dr. Sleeper's professional interests include inherited heart diseases, in particular inherited cardiomyopathies and therapeutic gene transfer. Dr. Goodwin has recently joined our Cardiology department.

Dr. Goodwin attended Cornell University and obtained a Bachelors degree in Animal Science before obtaining his doctoral degree from Tuskegee University. He then completed a small animal rotating internship with an emphasis on internal medicine and cardiology at Coral Springs Animal Hospital in Florida. Dr. Goodwin then completed a Masters degree and Cardiology Residency at Purdue University.

We are very happy to announce our new web site has launched. The website will keep you updated with current events and CE. Please be sure to visit our new website. Also, please make note the web address has changed to www.vcvrc.com.

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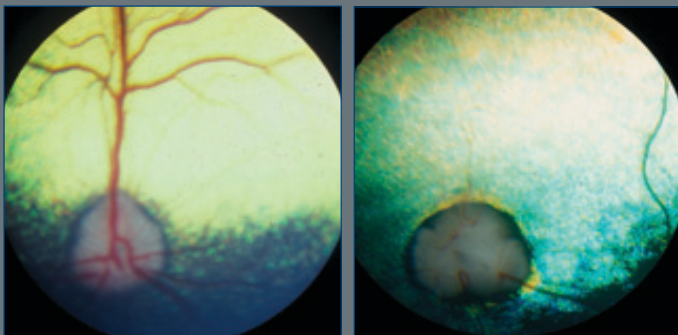
OPHTHALMOLOGY

Dr. Mary Landis, V.M.D., M.A.

Generalised Progressive Retinal Atrophy in Dogs

PRA is a term used for inherited photoreceptor dysplasia or degeneration. Dysplasia implies that the photoreceptor never forms properly while degeneration is used to describe a retina that forms without defect and then atrophies at a later time. Even though different breeds have PRAs which occur at different ages and are caused by different genetic defects, they all have the same general ophthalmic characteristics:

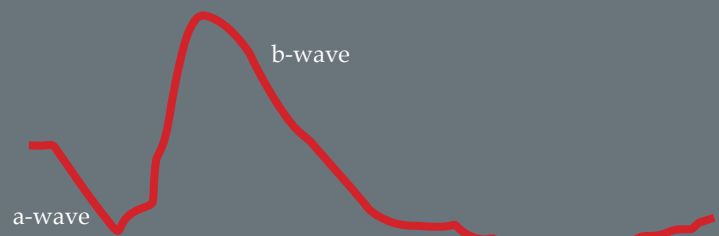
1. Visual impairment starts with nyctalopia (night blindness) that progresses to day blindness over many months (in contrast to SARD which occurs over weeks and affects both day and night vision))
2. Ophthalmoscopic signs of: tapetal hyper-reflectivity (indicating thinning of the retinal layers); retinal vessel attenuation; optic nerve atrophy; and, variably, non-tapetal fundus patchy depigmentation
3. Pupillary light reflexes persist
4. Secondary cataract may occur, interestingly in some breeds more so than others, and may make ophthalmoscopic examination difficult



Diagnosis is arrived at by:

- History - breed and age at onset of first signs (although any breed can be affected). In a case of cataract ask whether the blindness preceded the cataract or was noted concurrently.
- Characteristic posterior segment signs with ophthalmoscopy
- Electroretinography (ERG) for confirmation or in cases of cataract
- Genetic testing (available for many of the affected breeds)

The Ophthalmology Service at Valley Central has developed on-site ERG capabilities. With sedation and topical, or light general, anesthesia, a recording contact lens is placed on the patient's eye and the retina stimulated with flashes of light of varying intensity, frequency, and wave-length; recorded responses allow for quantitative assessment of rod and cone function. The test is reliable even in the presence of cataract and is particularly useful in evaluating the retina prior to cataract surgery if the cataract impairs visualization of the fundus



The normal ERG is a tri-phasic response with an amplitude scale in microvolts and the time scale in milliseconds

The most common forms of PRA encountered clinically in our part of the world are the progressive rod-cone degenerations (prcd) seen in middle-aged or older Cocker Spaniels, Labrador Retrievers and Miniature Poodles. Interestingly all these are congenic - although they have slightly different rates of progression and subtleties of retinal appearance, they are all caused by the same mutant gene.

There is no treatment for these animals; oral anti-oxidant supplements may slow progression. Cataract surgery is contraindicated as it is unlikely to improve vision. The thing to impress upon an owner distraught to learn that their dog will be aviscual is that their pet will learn to adapt using its other senses (much more advanced than ours of course) to get around, usually with maintenance of a reasonable quality of life with continued enjoyment for pet and owner.



ACUPUNCTURE

Dr. Lee Simpson, D.V.M., C.V.A., C.V.C.

Do Acupuncture and Chinese Medicine have a place in modern Veterinary Medicine?

We all know that acupuncture and Chinese Medicine started milleniums ago when physicians did not have access to modern diagnostics and therapeutics. In ancient times, it was used to treat any and all medical conditions of humans, their horses and food animals. But why would it be useful today, when the standard of care for pets is so technically advanced? The best way I can answer is to ask you to mentally page back through your cases. Are there any who are not completely free of disease, who still suffer from clinical signs in spite of all your best efforts and those of our board-certified colleagues? Any dermatitis or otitis cases that recur as soon as you stop meds? Any seizure cases that break through? Are there cushinoid or pre- cushinoid cases that keep their owners awake at night restless and panting, or diabetics with poorly controlled blood glucose even when the owners are very compliant? Have you been frustrated by paralyzed animals who don't respond well to steroids and antispasmodics but who have owners who can't or won't pay for surgery, or surgical cases that haven't responded as well as you had hoped? We all face disappointing cases that just don't quite heal.

Acupuncture and chinese herbs work wonderfully to complement your medical therapies and surgery. The vast majority of my patients are receiving care from their regular vet, and my job is to focus on any residual issues and hopefully rebalance the body so that your treatments hold longer and the problems do not recur. I make a concerted effort to communicate with you so that you can oversee the entire case. In addition to musculoskeletal and neuro patients which respond beautifully to acupuncture, my caseload largely consists of severe chronic medical issues such as cancer, skin and GI cases, endocrine malfunction, any organ dysfunction, seizures, and behavioral

issues. For instance, for cancer patients, I can help support their organs and their return to health when they are on or have completed chemo/ radiation, or I can treat the cancer directly for owners who do not choose chemo or radiation.

How can AP offer improvement over scientifically proven medicines and therapies?

There have been hundreds of scientific studies done to determine whether acupuncture has any actual effect, beneficial or otherwise. AP has been shown to help many conditions, partly by affecting various chemicals in the body from endorphins to steroids. The greater medical community is beginning to accept that AP has a valid place in modern medicine. I am happy to share some of this information with any of you who care to contact me.

The Chinese Medicine Physiology

Chinese medicine looks at the body and its physiology in a way that differs from western medicine. It gives us a way to tailor treatments to the individual clinical signs of each patient, including behavior and personality. Let's look at two different patients with diarrhea to understand a bit of the thought process behind TCVM.

Sadie is a 2 month old puppy with parvo; her diarrhea is acute and forceful and she has a strong smelling light colored liquid stool. She is hot (initially), anorexic and her disease progresses rapidly. In contrast is Smooch, a thin elderly cat who loves to lie on the heat register even in summer. He has chronic diarrhea, which is normal in color, but recently he has become anorexic and his stool has become completely liquid but lacks a strong odor.

For puppy Sadie, in addition to the fluid support and meds you would use, I would

give acupuncture points to safely help cool her body, or if she became more debilitated, to warm her. Other points would reduce cramping, support the immune system, and rebuild the digestive process.

Smooch would benefit from points to warm his body internally and enhance his digestion. However, his diarrhea is merely a sign of chronic imbalances in the body. If these are not addressed, his condition will recur and likely ultimately shorten his lifespan. I would use acupuncture and herbs to work to rebalance him and strengthen the underlying deficiencies.

In addition, the difference in paradigm gives us a way to approach many signs that are tough to tackle with regular medicine. For example, overly fearful or aggressive dogs can be challenging for owners and their vets. These abnormal behaviors are the result of one of a number of different imbalances in the body and an experienced practitioner of TCVM can address the problem with acupuncture and medicine and often mediate the signs.

When is acupuncture indicated?

AP can be helpful for any medical or musculoskeletal condition. Chinese medicine considers the entire animal, and so emotional and behavioral problems can also be addressed.

Americans are increasingly seeking alternative medicine for their own conditions; statistics suggest that at least 35% to 40% of the population have tried some form of alternative healing. Some modalities, when used by an experienced practitioner, can yield very positive results. The next time you have a patient that is causing you frustration, take a second to consider whether the addition of an alternative, complementary approach might be warranted. Acupuncture and herbs have much to offer.



SURGERY

Ezra Steinberg, V.M.D., D.A.C.V.S.

Minimally Invasive Surgery

The surgery department at Valley Central Referral is pleased to announce that they have been performing minimally invasive surgery at the facility for the past year. Minimally invasive surgery involves using a camera with a high powered light source as well as other specialized instruments to perform surgery through small incisions under video guidance. Surgeries can be performed in the thoracic cavity, the abdomen, or in joints.

There are many benefits to minimally invasive surgery including smaller incisions, improved cosmesis, less postoperative pain, shorter hospital stays, better visualization, and less pain medications that need to be administered. In addition, these procedures are regularly the standard of care in human medicine. Many of our clients and referring colleagues have been incredibly pleased with the results that we are seeing. It is also interesting to see how many of our owners have had a minimally invasive procedure on themselves!

Some of the most common procedures that we are performing are ovariectomies, ovariohysterectomies, liver biopsies, gastropexies, cystotomies, lung biopsies, and shoulder/elbow/knee explorations with fragment removals and debridement. We have also used minimally invasive surgery to remove ovarian remnants and perinephric pseudocysts with excellent outcomes. The beauty of minimally invasive surgery is that with increased visualization (both magnification and illumination) and smaller incisions, we can limit the amount of complications and also keep the perioperative morbidity to a minimum.

As you can see, the most recent publications in the majority of the veterinary journals are including descriptive reports, case series, and retrospective studies on minimally invasive procedures. The beauty of veterinary medicine is that we all work together to advance the field and quality of care. We are staying close on the heels of human medicine and doing our best to treat our patients with the most modern and efficient techniques.

We always welcome consultations regarding cases that may be a candidate for minimally invasive techniques. As case selection is one of the most important elements of the surgical process, please do not hesitate to call us regarding case histories, physical exam findings, or results of imaging in patients that may benefit from a minimally invasive procedure.





Meg M Sleeper VMD, DACVIM (Cardiology)

Associate Professor of Cardiology; University of Pennsylvania School of Veterinary Medicine

Management of Canine Atrial Fibrillation

Atrial fibrillation is one of the most commonly seen supraventricular arrhythmias in veterinary practice. In dogs and cats, it is usually associated with advanced stages of underlying heart disease with concomitant heart enlargement. In those patients, the ventricular response rate is often elevated, which contributes to the clinical signs of heart failure. However, atrial fibrillation (AF) can also occur in the absence of overt structural heart disease. In these cases, the ventricular response rate is usually essentially normal and the rhythm is termed "primary or lone AF". The therapeutic plan for these two patient populations is very different.

AF is an AV node-independent arrhythmia, caused by multiple simultaneous intra-atrial reentrant circuits. Medical conversion of AF to sinus rhythm with drugs is very difficult in canine patients. In most cases, ventricular rate control via slowing of AV node conduction with digoxin and/or diltiazem is the goal. The veterinary literature also cites atenolol as effective for rate control of AF, however because the majority of dogs presenting with AF have myocardial dysfunction, atenolol (a beta adrenergic receptor blocker and negative inotropic agent) is generally used only as a last resort. Medical management varies with the initial average heart rate and overall condition of the dog. Treatment can be tailored to the patient based on the approximate average heart rate (see below). Treatment of AF in cats is challenging. There is usually significant underlying disease that results in markedly enlarged atria and rapid AF. Medical management for rate control with a target heart rate of 130 to 150 bpm may be achieved with either a calcium channel blocker or a beta adrenergic receptor blocker.

There have been reports of narcotic administration inducing AF in large dogs with out underlying structural heart disease, likely caused by the increased vagal tone that occurs with narcotics. Treatment with 2 mg/kg lidocaine IV within 4 hours of onset has been demonstrated to restore sinus rhythm. Vagolytic drugs such as atropine should prevent onset or recurrence of AF in such cases.

In a subgroup of canine patients with mild structural heart disease or lone AF, electric cardioversion of AF to sinus rhythm can be achieved. The patients selected for this treatment are well compensated and the goal of cardioversion is to avoid structural or functional remodeling from chronic AF, even if the heart rate is normal. The rate of occurrence is high and there is significant morbidity associated with repeated cardioversions under general anesthesia. Moreover, this approach requires a defibrillator capable of synchronizing to the patient's T waves so the shock can be timed appropriately. Therefore, this approach is often impractical.

In most veterinary patients, rate control rather than rhythm control is therefore the approach utilized. Unfortunately, the heart rate in the hospital is often not reflective of the home heart rate and the irregular rhythm of AF is often difficult for pet owners to count accurately. In this scenario, a Holter monitor may be necessary to get an accurate average heart rate. If the heart rate is normal (less than or equal to 120 bpm), electrical cardioversion (rarely) or benign neglect with heart rate monitoring every 6 months are reasonable therapeutic options.

If the heart rate is between 140 and 160 bpm and/or there is evidence of early myocardial failure, cardioversion may be attempted, but if AF recurs (or as the first line of therapy), rate control with medical management is recommended. If the heart rate is greater than 180 bpm and/or there are other clinical signs of heart disease, medical management is the superior option.

If the average heart rate is faster than 180 bpm, the recommended medical protocol is based on whether the patient is clinically stable or in congestive heart failure that requires medical management. If the dog is in congestive heart failure, addressing congestion and improving cardiac output will often result in slowing of the heart rate. However, rapid heart rates may need to be controlled in order to improve cardiac output. Optimally, heart rate control can be achieved using diltiazem (calcium channel blocker) or esmolol (short acting beta adrenergic receptor blocker) as a constant rate infusion so that the drug can be titrated to effect while also monitoring blood pressure. Congestive heart failure should be addressed simultaneously and appropriate therapy will depend on the dog's presenting status as well as the underlying disease. Digoxin is not recommended IV when rapid control of tachycardia is required because the risk of digoxin toxicity is too high when it is administered by this route.

Once the dog is stabilized, or in a stable outpatient in which the Holter demonstrates an average heart rate of greater than 180 bpm, oral medications can be initiated. A recent veterinary study suggests that digoxin monotherapy rarely is sufficient to control the heart rate during times of excitement or exercise. Thus, dogs with moderate to fast heart rates often require combination therapy with digoxin and diltiazem (and perhaps the addition of atenolol). The target average heart rate after 1 week of therapy is 100 to 130 bpm and the rate should be assessed during exercise and rest. It is also important to evaluate the rhythm for new arrhythmias such as ventricular ectopy or AV block. If the heart rate remains higher than 140-150 bpm, a drug increase may be warranted.

Historically it was believed that reasonable heart rate control in canine patients with AF was 140-160 bpm. However, it is now believed that dogs benefit from more aggressive rate control. Therefore, the target HR (on a 24 Holter monitor) for dogs with AF is generally believed to be 80-110 bpm. The drugs used to achieve this HR control are the same as those discussed for therapy of a dog with a rapid heart rate (diltiazem XR and digoxin). Although the therapeutic window for digoxin is small, dogs nearly always exhibit gastrointestinal clinical signs before more dangerous adverse signs develop. Therefore, in a dog with a good appetite, this author does not routinely perform digoxin levels unless the heart rate suggests the drug dosage should be increased. Alternatively, in a dog with a poor appetite, digoxin blood levels are important to ensure blood levels do not enter the toxic range. When digoxin level monitoring is performed, blood should be drawn 6-8 hours post pill and the digoxin level should be between 0.05 and 1.5 ng/dl. If it is below the lower level, the clinician should consider increasing the dose.



NURSES TIP

By Lauren Kelchner, Veterinary Technician

The long and short of it: The importance of taking a detailed history and how to do so

Taking a relevant and detailed history is important for many reasons. The client will feel that they were able to fully convey what is going on with their pet, the veterinarian will have a more complete picture of the case history, and the technician will not have missed any small but very meaningful points that could make an impact on the treatment of the patient.

Every client has a story to tell about their pet. Veterinary technicians do not know when they started working that they would have to become an interpreter, a psychologist, and a pet psychic; emotional, and non emotional all at the same time. Our job at times is to figure out from very lengthy stories, which are the most important noteworthy points. Asking the same few basic questions each time (regardless of the species, breed, or circumstances) can be the key to extracting the most significant details.

1. What brought you to our hospital and when did the issue/s start?

Let the client give their story first and explain what they believe to be important. A timeline of events is always helpful for the veterinarian as well.

2. Is there any vomiting or diarrhea?

Do not leave off with a simple yes or no answer. Each answer should be followed by a question that prompts an elaboration. If there is vomiting, what does it look like? Anything unusual in it? How frequently? When was the last time the patient vomited? As for the stools, if there is diarrhea – does it contain blood or anything unusual?

3. Is the patient eating and drinking appropriately?

Expand with more questions again, such as - any decrease in appetite? Any weight loss?

4. What kind of diet is the patient on?

Dry food, canned food, or both?

5. How is the activity level?

Are there any changes there?

6. Were there any radiographs taken for this issue?

Was the owner told anything about the x-rays by another veterinarian?

7. Is this patient on any medications?

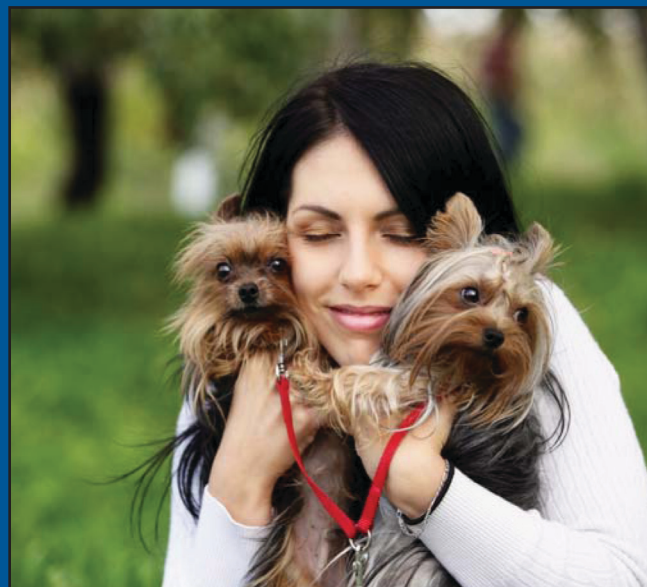
What are the names, milligrams, and dosages of any medications? Is there a history of any medical problems?

8. Was there any recent blood work done?

Were there any issues with blood work in the past?

Each time you follow these guidelines, the follow-up questions will become more natural to ask and less information will be missed or forgotten.

To summarize, you can remember the questions in brief. **History? Vomiting/diarrhea? Eating/drinking? Activity level? Diet? Radiographs? Meds? Blood work?** A mental list should be gone through for each patient before the history is complete. Understandably, in an emergency situation there may not be time for many questions. However, if you have the time, take the time. Taking a little more time to get a little more information can make a big difference. Preparing a detailed history and highlighting these important points will increase the chances of better care and quicker recovery for each patient, since this is our ultimate goal of veterinary medicine.





VALLEY CENTRAL

VETERINARY REFERRAL CENTER

210 Fullerton Avenue
Whitehall, PA 18052



VCVRC has been serving the Lehigh Valley and surrounding areas since 1996. We are dedicated to providing state-of-the-art veterinary care for your patients.

Specialists at Valley Central Veterinary Referral Center

SURGERY

Carlos Hodges, D.V.M., M.S., P.C.

Practice Limited to Surgery

Salvador Galindo, D.V.M.

Practice Limited to Surgery

Ezra Steinberg, V.M.D., D.A.C.V.S.

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Mary Landis, V.M.D., M.A.

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Ronald Hodges, D.V.M., P.C., D.A.C.V.I.M.

BEHAVIOR

Susan Bulanda, M.A.

Certified Animal Behavior Consultant

ACUPUNCTURE

LEE SIMPSON, D.V.M., C.V.A., C.V.C.

Continuing Education Schedule

Monthly Case Conferences:

The last Thursday of the Month from 12 PM–1 PM. For your convenience we are continuing to offer monthly case meetings thru web conferencing. For more details please call the office.

Discussions about clinical cases with medicine and surgical implications.

Lunch will be provided, courtesy of Hills, by Dr. Heather Berst.

Until our new web-site is launched, please refer to our Facebook page for updates to our CE schedule. You may also email Dr. Carlos at Carlos@vcvrh.com with any questions about upcoming lectures.

