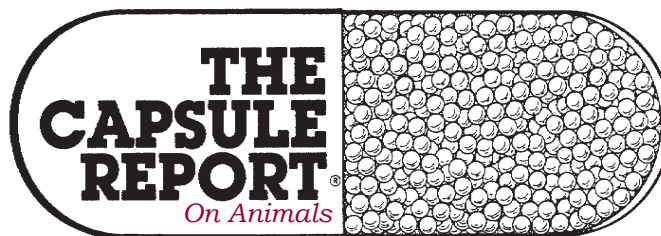


A digest of practical and clinically relevant information from this month's journals and proceedings



Small Animal/Exotic Edition

Our 30th Year

Volume 30, Number 3

June 2011

Topical treatment of cataracts

Surgery is typically the primary treatment for restoration of cataract-associated vision loss in dogs; however, a medical treatment to preserve vision in diabetic dogs would be beneficial. A randomized, prospective, double-masked, placebo-controlled pilot study was conducted in 40 dogs with newly diagnosed diabetes mellitus (DM) with minimal or no lens changes to assess whether topical administration of the aldose reductase inhibitor, Kinostat (Therapeutic Vision, Omaha, NE), ameliorated the onset or progression of cataracts. Kinostat was administered to 28 dogs and placebo to 12 dogs; owners administered the agent into both eyes q8h for 1 year. The development and severity of cataracts were significantly less in Kinostat-treated dogs, suggesting that topical Kinostat is clinically beneficial in arresting the onset and/or progression of cataracts in dogs with DM. The use of Kinostat may be warranted in dogs with mild lens changes, but may not significantly impact more advanced lens changes.

*P.F. Kador et al.
Vet Ophthalmol, 13:363, 2010; NAVC Clin Brf, Apr 2011*

Poor diabetic regulation in the dog

In general, poor regulation reflects problems with energy use or intake or the biological behavior of the insulin itself. As energy issues are easily identified and addressed, it is helpful to start with this possibility before moving forward. In most cases, carefully questioning the client will highlight issues with energy utilization. Any sporadic exertion can substantially affect calorie utilization and may result in profound hypoglycemia. It's important to ask about recent changes in routine, such as a visit from grandchildren or a trip to the groomer. We may not think of it as exercise, but a day spent circling in a cage at the doggy spa has the same physiologic effects as a run in the park. Changes in energy intake may be more difficult to identify. Some clients hesitate to admit breaking the dietary rules or feel that the occasional snack or shared sandwich will not cause problems. It is important to explain that a couple of cookies or a piece of buttered toast can provide 20% of the daily caloric needs for a

small patient and can certainly impact diabetic regulation. Make sure every member of the household is on board with the feeding plan and understands the importance of a consistent diet. The dog should be fed on a regular schedule, accompanied by daily moderate exercise.

*Audrey K. Cook, BVMS&S, MRCVS, Dip ACVIM
Vet Med, 105:4*

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Wildlife rehab

Regardless of the reason you choose to see wildlife in your practice, it is essential to realize the importance of developing a relationship with a unique kind of specialist—one you are not used to dealing with on a daily basis—the wildlife rehabilitator. When choosing a wildlife rehabilitator (or rehabber), you should ensure that he or she is appropriately licensed or permitted by your state and has relevant experience with the species you are referring. The National Wildlife Rehabilitators Association is a great starting point to help you find a rehabber in your area as well as to determine what qualifications and experiences to expect from a good rehabber (www.nrwildhfe.org).

*Scott P. Terrell, DVM, Dip ACVP
NAVC Clin Brf, 4:11*

Doxycycline in the bird

A long-acting injectable suspension is available from Europe and can be obtained easily. This drug, Vibravenos (doxycycline hyclate) from Pfizer, London can be administered IM at 75-100 mg/kg, every 5-7 days. The author also routinely gives it subcutaneously with good efficacy. Only this form of long-acting doxycycline should be used because other forms can cause severe muscle damage. Doxycycline coated millet seed has been shown to be efficacious in budgerigars. Doxycycline hyclate can also be used effectively by dissolving it in water at a dose of 300 mg/L for cockatiels and 400-800 mg/L in larger parrots. The most common side effect of the oral medications are decreased appetite, vomiting and alterations of normal gut flora.

*James K. Morrissey, DVM, Dip ABVP
13th VECCS Conf Proc*

The Capsule Report.

Topical ophthalmic proparacaine for wounds

Topical ophthalmic proparacaine can also be applied to small wounds for quick pain control. This clinician has found it works well to relieve the pain of hot spots, torn nails, ear infections, and other painful injuries that need to be cleaned. Apply a few drops on the wound—enough to cover it—or, alternatively, soak some gauze in the solution and lay the gauze on the wound. Wait about a minute, and then proceed with treatment. The animal is in less pain, and it makes cleaning and examining the patient much easier.

*Dr. Mark Reser
Vet Med 105:7*

Idiopathic/interstitial cystitis

Crystals often are not present when fresh urine is evaluated. If crystals are observed, they usually are present in low numbers. Refrigeration can cause the formation of crystals *ex vivo* that were not present *in vivo*. Regardless, the presence of crystals has NO known diagnostic or pathophysiologic impact on non-obstructive forms of idiopathic cystitis. Struvite or calcium oxalate crystals do not damage a healthy urothelium. Conventional wisdom previously held that crystals formed and subsequently caused damage to the lower urinary tract, but it is more likely that sterile (neurogenic) inflammation occurs first, plasma proteins exude into urine, urinary pH increases, and then struvite crystals precipitate as a secondary event. It is physiologically normal to observe a few crystals in urinary sediment, especially when the urine is highly concentrated. The urine specific gravity (USG) in healthy cats should be greater than 1.025 in those eating mostly canned foods, and greater than 1.035 in those eating exclusively dry foods. In cats with LUTS and USG less than 1.025, some systemic disease (renal disease, renal failure, hyperthyroidism, diabetes mellitus) may be present that is interfering with the formation of more concentrated urine. Though not specifically studied, the author's impression is that cats with extremely high USG (1.060-1.080) are at higher risk for perpetuation of idiopathic cystitis once initiated if not transitioned to a therapy that produces a lower USG.

*Dennis J. Chew, DVM, and CAT Buffington, DVM
71st Co St U Vet Conf Procd*

Inducing emesis in strychnine cases

If the exposure is recent and no clinical signs are present, induce vomiting with 3% hydrogen peroxide (2.2 ml/kg, PO, for a maximum of 45 ml in dogs; repeat once after 10-15 minutes if no vomiting occurs), apomorphine in dogs (0.03 mg/kg, IV; 0.04 mg/kg, IM; or dissolve a crushed pill in physiologic saline, instill in the conjunctival sac, and rinse with water after emesis has occurred), or xylazine (cats =

0.44 mg/kg, IM; dogs = 1.1 mg/kg, SQ or IM). Yohimbine (0.1 mg/kg, IV in dogs) can be given to reverse the effects of xylazine. Induce emesis with great caution since it could trigger seizures in an asymptomatic animal due to stress and due to the fast-acting nature of strychnine. Do not induce emesis in hyperesthetic, anesthetized, or convulsing animals.

*Safdar A. Khan, DVM, MS, PhD and Mary Kay Mclean, BS
Vet Med, 105:6*

Online pharmacy advice for clients

Order from a website that belongs to a Vet-VIPPS accredited pharmacy. Vet-VIPPS—the Veterinary-Verified Internet Pharmacy Practice Sites—is a voluntary accreditation program of the National Association of Boards of Pharmacy (NABP). NABP gives the Vet-VIPPS seal to online pharmacies that dispense prescription animal drugs and comply with NABP's strict criteria, including federal and state licensing and inspection requirements, protecting patient confidentiality, quality assurance, and validity of prescription orders. Look for the Vet-VIPPS seal displayed on a pharmacy's Web site or check with NABP (click on "Accreditation Programs") to find out if a pharmacy is Vet-VIPPS accredited. Because this is a new program, begun in 2009, a small number of pharmacies are currently Vet-VIPPS accredited.

MN VMA News, Jan/Feb 2011

Pain scale in cats

A standardized self-rating pain scale is routinely used in human medicine, and a validated acute pain scale (the Glasgow Composite Measure Pain Scale) is available in dogs. No validated acute pain scale exists for cats (although the Glasgow group is working on one at this time), but one pain scoring tool in common use is the Colorado State University Pain Scale. To download a PDF of this pain scale go to ivapm.evetsites.net/refId,20472/refDownload.pml.

*Mark E. Epstein, DVM, Dip ABVP
Vet Med, Dec 2010*

Declining office visits

Brakke Consulting, Bayer Animal Health and the National Commission on Veterinary Economic Issues (NCVEI) announced results of the Veterinary Care Usage Study, a comprehensive investigation into reasons for the decline in companion animal veterinary visits over the past several years. The study identified six root causes: The economic impact of the recession; Fragmentation of veterinary services; Consumers substituting Internet research for office visits; Feline resistance; Perception among pet owners that regular medical check-ups are unnecessary; and Cost of care. The study included individual interviews and focus groups with veterinarians, focus groups with pet owners and a nationally representative survey of 2,000 owners of dogs and cats to determine the factors contributing to the decline in veterinary visits and to test propositions that would encourage pet owners to increase their visits

SCVMA eNews, Jan 2011

Salmonellosis in pet frogs

A recent multistate outbreak of human *Salmonella typhimurium* infections has been linked to African dwarf frogs, a common aquatic pet. These small entirely aquatic frogs are frequently found in pet stores, petting zoos, and classrooms and as household pets. Patients were likely exposed through contact with infected aquarium water in most cases, rather than from direct handling of infected frogs. This salmonella strain was isolated from several sources including aquarium water, gravel, filtration systems, and even several of the frogs themselves. Younger children are more likely to reach into tank water and are less likely to wash their hands properly. Additionally, the CDC inquiry found that most frog owners were cleaning the aquariums in either kitchen or bathroom sinks. This opens the door for potential food contamination and other sources of exposure. Young children, the elderly, and those with compromised immune systems are especially vulnerable to developing severe symptoms. Aquariums should be cleaned, and the water should be changed regularly, ideally done outside, and children should not take part in the process. If indoor tubs are used for either aquarium cleaning or frog bathing, they should be disinfected with bleach afterward. After handling frogs or coming in contact with a frog's habitat, it is important to wash hands thoroughly with soap and water. Young children should avoid contact with amphibians and reptiles, and households with children under the age of 5 should be discouraged from owning these pets. Additionally, owners should not let amphibians or reptiles roam throughout the house.

CDC
Vet Med, Dec 2010

Sickness behaviors related to external events

Nonspecific sickness behaviors (e.g., vomiting, diarrhea, anorexia, fever, lethargy, decreased activity, and decreased grooming) are common in cats and frequently cause owners to seek veterinary care. Results of a new study suggest that these sickness behaviors, including some of the most commonly observed abnormalities in client-owned cats, may be a result not of an internal disorder but of exposure to unusual external events (i.e., events that activate the stress response system, such as failure of light timers and temperature regulation, changes in caretaker personnel, introduction of dogs into nearby areas, other loud unpredictable noises, introduction of new cats into the colony, movement of cats between rooms and cages). In the study, 12 healthy cats and 20 cats with FIC housed in a well-maintained vivarium were monitored for 77 weeks. In both groups, exposure to unusual external events was associated with a significant increase in the total number of sickness behaviors.

Judi L. Stella, BS et al.
JAVMA, Jan 1, 2011

Plant eating

This 11-year-old, castrated miniature poodle was

referred for a 7-year history of plant-eating behavior followed by vomiting. No specific behavior patterns had been noted by the owners before or after the dog ate plants, and the behavior occurred only once daily. The dog had mildly soft stools, but the history, physical examination, and laboratory diagnostics were otherwise unremarkable. Gastrointestinal endoscopy, histologic examination, and functional tests were also unremarkable. Food allergy was ruled out based on clinical presentation and a negative response to an 8-week hypoallergenic diet trial. The authors assumed the dog was eating plants to correct a dietary deficiency or to relieve digestive problems. A commercial high-fiber prescription diet was recommended, adjusting fiber to 20% of the diet. Within 3 days, the plant-eating behavior and vomiting stopped, and there was no recurrence as of a 13-month follow-up. It was concluded that the plant-eating behavior was the result of a deficient diet, especially deficiency of fiber, and the vomiting was caused by mechanical irritation of the plant or acute consumption of a large quantity of poorly digestible material. A short, high-fiber diet trial may be worth trying in pets with a history of plant eating before a great deal of advanced, time-consuming, and costly diagnostics are conducted.

B.T. Kang et al.
NAVC Clin Brf, 5:10

Diet for a growing pup

The total amount of calcium consumed depends on the energy density of the diet and the energy requirement of the puppy, and nutrient requirements are established based on assumptions of dietary energy density. Variations in energy density can result in either suboptimal or supraoptimal intake of total calcium; for example, diets that have high calcium concentrations relative to energy or that have a high energy density result in a greater overall calcium intake. In most cases, growth diets formulated for puppies of all sizes as well as those for large breeds provide calcium concentrations in the safe range; however, those formulated specifically for large breeds are less energy dense and therefore are less likely to be overfed. A diet specifically formulated for growth that has passed standardized feeding tests is preferred; the guidelines for these tests are established by AAFCO. The growth diet should be fed until growth plate closure has occurred, which likely varies with both genotype and phenotype because it is influenced by the rate of growth, the presence of joint dysplasia and hormones (and therefore neuter status). It is not detrimental to keep a healthy, lean puppy on growth formula until full adult size is achieved. When such a diet is fed, vitamin and mineral supplements are unnecessary and potentially harmful.

Jennifer Larsen, DVM, PhD, Dip ACVN
Comp, May 2010

Screening ECGs in seniors

An electrocardiogram is occasionally recommended as a screening test in senior animals. An ECG is sensitive for detecting rate and rhythm disturbances but not for detecting structural heart disease. During a typical wellness visit, an ECG is rarely more useful than a thorough physical examination and auscultation for detecting a rhythm or rate abnormality and is therefore not recommended as a screening test. Exceptions to this rule may include the use of a 24-hour Holter monitor in breeds predisposed to arrhythmias.

*Caroline M. Kiss, DVM and Bess J. Pierce, DVM, Dip ABVP
NAVC Clin Brf, 8:5*

Drugs for hyphema

The use of drugs in cases of hyphema to modify pupil size is controversial. Studies have showed no difference in outcome when patients were treated with mydriatics, miotics, neither, or both. Nevertheless, a topical parasympatholytic mydriatic-cycloplegic agent is recommended initially in most animals to discourage posterior synechiae formation, to decrease ciliary spasm, and to stabilize the blood-aqueous barrier, particularly in patients with traumatic hyphema. Atropine 1% is applied BID to induce mydriasis and then reduced to the least frequent dosage necessary to maintain pupillary dilation. Because atropine can alter aqueous outflow and exacerbate the obstruction of the iridocorneal angle, intraocular pressure must be carefully monitored and atropine discontinued immediately if IOP increases. If intraocular pressure is high normal at initial evaluation, 1% tropicamide may be a safer alternative because of its shorter duration of action. In the event of elevated IOP, a topical carbonic anhydrase inhibitor such as dorzolamide is indicated. Topical prostaglandin analogues such as latanoprost are best avoided due to their ability to exacerbate intraocular inflammation and create profound miosis.

*Mary B. Glaze, DVM, MS, Dip ACVO
82nd West Vet Conf Procd*

Steroids for acute traumatic cord injury

High-dose steroid therapy with methylprednisolone sodium succinate (MPSS) has been recommended for acute traumatic cord lesions to reduce the effects of secondary injury (e.g., swelling, inflammation), but no clinical studies have conclusively demonstrated efficacy. One high-dose steroid regimen is as follows. Initial administration: 30 mg/kg, IV; 2 and 4 hours later: 12.5 mg/kg; 7 hours later: 2.5 mg/kg/hr for a total of 48 hours from the time of initial administration. Clinicians electing to use this therapy should be aware, however, that case studies in dogs have shown that 33% to 90% of animals experience severe adverse effects, including diarrhea, vomiting, and other GI signs, and the drug may also hinder neuronal regeneration.

*Rebecca Kirby, DVM, Dip ACVIM
NAVC Clin Brf, Jan 2011*

Avian care DVD

Avian Studios [avianstudios.com] has released a new DVD entitled Expert Companion Bird Care Series: Volume I. This first-of-its-kind DVD was created and taught by leading avian veterinarians and bird care specialists and is designed to be a reliable resource on avian care that veterinarians can offer to their bird-owning clients. Topics include bird identification, housing, nutrition, toxins, identifying general illness and finding an avian veterinarian.

NAVC Clin Brf, 8:4

Diagnosis of early cruciate disease

Dogs with complete cranial cruciate ligament (CCL) rupture demonstrate clinically characteristic severe lameness; however, those with partial stability and only mild lameness are more diagnostically challenging. Some tips to help identify CCL injury earlier in the course of the disease include: 1) Gait & posture evaluation: Tip-offs to these injuries include forward weight distribution with ventral head tilt; limb postural changes with hyperextended tarsi; and a stilted, shuffling gait with a lumbar sashay. A sitting stance with awkward collapse onto the tuber ischii and an asymmetrical sitting position is typical for these dogs. 2) Physical examination: Passive forced stifle extension, preferably with the tarsus flexed, will elicit pain and exacerbate lameness, helping the practitioner localize the problem. The patella tendon should be easily discernible with distinct borders on palpation; effusion and fibrosis will obscure the borders, providing a sensitive method for early detection of CCL injury. Palpable osteophytes can be detected at an early stage by placing a finger over the lateral aspect of the lateral trochlear ridge and flexing and extending the stifle.

*R.B. Fitch
NAVC Clin Brf, 8:2*

Insulin types for cats

There has been discussion regarding the use of porcine, bovine, and human insulins and the importance of their differing amino acid sequences as compared with natural cat insulin. Dog and porcine insulin are similar while cat and bovine insulin are similar. However, amino acid differences are not critical in determining the insulin type used. Rather, it is dose, frequency of administration, diet, and many other factors that determine success or failure in therapy or in the achievement of remission. Also, any cat may respond better to one insulin than to another, therefore, having several choices is always an advantage.

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82nd West Vet Conf Procd*