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Entropion surgery in the unaffected eye

In younger cats, entropion may be caused by ocular surface irritation from keratitis, conjunctivitis, corneal ulceration, tear film instability, or corneal sequestrum. In a second form that occurs in older cats, lid laxity or tension can result in entropion. Various methods of entropion corrections have been described. In a retrospective review of 124 surgically managed feline entropion cases, a combination of Hotz-Celsus (HC) and lateral canthal closure had the highest success rate for resolving entropion in a single procedure. Cats with unilateral entropion often developed entropion in the contralateral eyelid 3 or more months after the first entropion surgery. The cats that presented with unilateral entropion and had contralateral prophylactic surgery never developed entropion in that eye. The authors recommended a combination of HC and lateral canthal closure and prophylactic lateral canthal closure in the contralateral unaffected eye. This has also been the author's experience when presented with unilateral canine entropion; the ***contralateral unaffected eye will benefit from a prophylactic lateral canthoplasty***, shortening both eyelids to the appropriate length and preventing future entropion in the unaffected eye.

David A. Wilkie, DVM, MS, Dip ACVO et al.
NAVC Clin Brf, Dec 2012

INSIDE THIS ISSUE

Periodontitis-low dose doxycycline

Considering these results, a regimen of 2 mg of doxycycline/kg once daily could be used for the clinical improvement of periodontal disease in dogs, given that it yielded MMP-2 and -9 inhibition without an antimicrobial effect. The subantimicrobial dose of doxycycline (SDD) could be recommended for long-term treatment of gelatinolytic inflammatory diseases such as periodontitis and arthritis. Because removal of injurious bacteria should be performed prior to the treatment for periodontitis, the medication protocol of SDD treatment should include subgingival scaling before SDD administration. Before clinical application of SDDs in dogs, additional in vivo studies that might support clinical improvement, but also including researches of antimicrobial resistance, would be needed for long-term use.

Se Eun Kim, DVM et al.
Am J Vet Res, Jan 2013

Topical recipe for otitis flare-ups

In many allergic patients topical hydrocortisone is often not potent enough to reduce "flares" of allergic otitis. These ears are also quite prone to the development of secondary Malassezia infections. Improved control may be achieved with a mix of 1:2 or 1:1 dexamethasone sodium phosphate and 1% miconazole. The ratios are changed in accordance with the primary problem being managed within the ear (inflammation vs. Malassezia). A common application protocol for this mix in a golden retriever-sized dog would be 0.5 cc twice weekly, as a long-term maintenance regime. The "mix" appears to maintain its efficacy for 3 months.

Rod A.W. Rosychuk, DVM, Dip ACVIM
76th AAHA Conf Procd

Using the smart phone for better compliance

Some of this author's clients who struggle to remember their pets' monthly heartworm preventive allowed her to program their cell phones with a monthly reminder. The pets were tested for heartworms and then the clients' phones were programmed before they left the clinic. The author has seen an improvement in compliance since starting this practice.

Dr. Robyn Kurtz
Vet Med, Dec 2012

Non-specific therapies for diarrhea in the cat

a) Oral protectants: provide local protection, adsorb bacteria and toxins, and may be antiinflammatory; e.g., Bismuth subsalicylate: 0.5-1 ml/kg, PO, BID, up to 3 days; Kaopectate: 1-2 ml/kg, PO, every 2-6 hrs. b) Motility modifiers: avoid if invasive infectious enteropathogens are suspected. c) Loperamide: 0.1-0.2 mg/kg, PO, TID. d) Cobalamin: for chronic small intestinal diarrhea; 250 µg, SQ, once weekly for 4 weeks.

Susan Little, DVM, Dip ABVP
DC Acad Vet Med Conf Procd, Dec 2012

Split dose heartworm treatment

In a study of 382 dogs with heartworm infection receiving melarsomine, none required cessation of therapy due to hepatorenal toxicity, as compared to 15%-30% with thiacetarsemide, the agent previously used. With 2 doses, the efficacy is over 90% (FDA pivotal study) with the useful flexibility of a 50% worm kill with 1 dose. This then allows "split-dose" protocol to be utilized in severely afflicted individuals or in those in which pulmonary thromboembolism is a concern. This method results in destruction of only one-half the worms initially (1 IM injection of 2.5 mg/kg), thereby lessening the chance for embolic complications. This single dosage is followed by a 2 dose regimen in 1-3 months, if clinical conditions permit. While the manufacturer recommends this protocol for severely affected dogs, this author employs it in **all cases** unless there is financial constraint or underlying concern for arsenical toxicity (for example, preexistent severe renal or hepatic disease). One disadvantage to the "split-dose" method, in addition to the expense, is the need for 2 months of exercise restriction.

Clarke Atkins, DVM, Dip ACVIM
36th Annual Royal Canin & OSU Symposium

Evaluating the heart patient

Get an accurate account of what medications owners are actually giving their pet—not what you think they should be giving. Have they altered your recommended therapeutic regimen? Have they added in anything they felt might help? ***NSAIDs are the biggest offender*** in patients receiving heart medications. NSAIDs, added to heart-failure medications (ACE inhibitors and diuretics), can result in azotemia and renal failure.

Ashley B. Saunders, DVM Dip ACVIM
77th AAHA Conf Procd

A guide to treating wildlife

A new AVMA chart helps navigate the often complex legal landscape associated with treating sick or injured wild animals and hybrids. The ***Wildlife Decision Tree*** features a series of questions, answers, and information veterinarians can turn to when presented with a wild animal in need of veterinary care. Topics include which laws and regulations are to be followed, proper documentation, and when emergency euthanasia is appropriate. Additionally, the chart addresses questions such as these: "Is it legal to treat this species or hybrid?" "Is the animal suffering from imminently fatal injuries?" and "Are you knowledgeable and prepared to treat this animal?" The Wildlife Decision Tree is available for free download at www.avma. org.

JAVMA, Jan 1, 2013

Feline atopy and cyclosporine

Cyclosporine is a good alternative to corti-co-steroids for atopic cats. Dosing can range from 2.5-7.5 mg/kg, daily. The oral liquid can be given with or without food. The drug reaches steady-state after one week. In the author's practice a CBC, serum chemistry profile, urinalysis, FIV and FeLV tests, and toxoplasmosis IgM and IgG is performed before starting the drug. Recrudescence of toxoplasmosis is possible in cats with cyclosporine levels >1,000 ng/ml, so it's a good idea not to use cyclosporine in outdoor cats or cats ingesting raw meat. Most patients are started at 2.5 mg/kg daily, as it has been found many can be maintained on a daily dose of less than 5-7.5 mg/kg. Once a cat has improved, the author tries to switch administration to every other day, and even less frequently later on in therapy. Blood work should be performed yearly, as should a physical examination that includes checking the cat's body weight and assessing for gingival hyperplasia, which appears to be more common in dogs receiving cyclosporine. The drug is useful in diabetic cats that have become atopic, but blood glucose monitoring still should be performed. Cats are not immune to the effects of corticosteroids as formerly thought, and educated pet owners may want to seek alternatives to these drugs.

Alice M. Jeromin, RPh, DVM, Dip ACVD
DVM News Mag, 43:6

Thoracocentesis in dyspneic cats

Perform thoracocentesis in dyspneic cats prior to radiographs. Even for the cat that turns out not to have pleural effusion, the likelihood of adverse effects of attempted thoracocentesis is small. When the lung sounds are dull or absent it is quite obvious that the cat has pleural effusion, but some cats with pleural effusion are described as having "normal lung sounds." Removal of as little as 10 ml/kg will substantially improve ventilation and make the cat a much better candidate for radiographs with restraint.

Kenneth Harkin, DVM, Dip ACVIM
Cent Vet Conf Procd, 09:07

Not so much pressure, doc

After we draw blood from a patient, or when we ap ly pressure on a bleeding vessel during surgery, we sometimes hold off the vein by pressing it firmly. When we do that, we obviously prevent the vein from bleeding, but we also stop blood flow to the area. This in turn prevents clotting factors and platelets from reaching the area of the vessel wall that has been traumatized by the needle. When the holder releases the pressure, the patient will often bleed, since there has been no blood clot formation at all. A better way to hold off a vein is to ***apply gentle pressure***, just enough to prevent overt bleeding, while allowing blood flow to the area. This technique will allow the creation of a blood clot. In turn, this will ensure that the patient goes home without a hema-

toma, stained fur, or an erroneous diagnosis of clotting disorder.

Phil Zeltzman, DVM, Dip ACVS
Vet Pract News, Jan 2013

Bromethalin rodenticides

The total number of rodenticide-related calls to ASPCA Animal Poison Control Center did not decrease after bait stations were required, but veterinarians may be more likely to call the helpline about bromethalin-related poisonings because they are unfamiliar with the treatment protocols. Bromethalin is a neurotoxic poison. It is also noted that many consumers are using bromethalin blocks improperly. For example, bags of 15 or more bromethalin blocks often are sold with a single bait station, leading some people to use both the bait station and loose bait in multiple rodent entry points. Dogs will chew through rodenticide bags. there is a concern that many veterinarians may be unaware of the shift toward bromethalin. Many veterinarians are unaware that bromethalin is becoming more popular as a rodenticide. Treatment for bromethalin poisoning typically involves administering 3 doses of activated charcoal over 24 hours. Early treatment usually provides good outcomes, but animals that have signs of toxicosis before treatment can sustain permanent neurologic damage.

JAVMA, Mar 15, 2013

Cleaning cat urine and stool messes

Thoroughly clean up all sites. Clean sites when cat is NOT present - if cat sees you cleaning, it may need to re-mark to reestablish its identity at the clean site. Cleaning litter box in cat's presence may encourage cat to use box for same reason. **Old sites:** *50:50 vinegar-water*. Soak spots, then absorb with towel-newspaper sandwich weighted to soak up as much liquid as possible or use wet-dry vacuum. Pull up carpet and treat padding same way. Rinse 12X with gradually weaker vinegar solutions, each time soaking up with the towel-newspaper sandwich. Let dry; lie down on carpet and sniff: if any hint of urine, repeat. Follow with enzymatic cleaner. *Peroxide method*: Mix 2 cups 3% hydrogen peroxide with 2 teaspoons baking soda and 2 drops dish soap; stir gently to dissolve soda. Pour onto soiled spot. Let set 24 hours; blot any remaining. Let dry, vacuum. Repeat 1-5 times as needed-more porous surfaces take more times. **New sites:** *No vinegar*: Chemists say vinegar will set the smell of urine if use vinegar while urine is wet; Alternative is to use club soda or baking soda water in a carpet cleaning machine; repeat at least 12X. Use towel-newspaper sandwich for absorption until damp only. Rinse and re-absorb 12X. Dry, do smell test. Clean with enzymatic cleaner. Effective enzymatic cleaners: Anti-Icky-Poo (*www.antiickypoo.com*), Bramton Odor Eliminator (www.petazon.com). Mist all cleaned areas with Feliway.

Hazel Carney, DVM, MS, Dip ABVP
WA St VMA Conf Procd, 06:08

Cobalamin deficiency in GI disease

On the basis of the data in this study, the authors conclude that hypocobalaminemia is commonly detected in dogs with chronic gastrointestinal disease, but it does not always appear to be associated with a deficiency of cobalamin on a cellular level. Nevertheless, the high prevalence of hypocobalaminemia in these dogs and the fact that hypocobalaminemia is a risk factor for negative outcome in dogs with chronic GI disease lead the authors to believe that ***serum cobalamin concentrations should be measured in all dogs with clinical signs of chronic gastrointestinal disease.*** Treatment with cobalamin is strongly advised for all patients with a serum cobalamin concentration below the reference interval and is also suggested for patients with serum cobalamin concentrations within the low part of the reference interval (<350 ng/L) if there are clinical signs of GI disease, regardless of whether serum methylmalonic acid concentrations are high. The reason for this recommendation is that cobalamin deficiency can cause gastrointestinal tract abnormalities (e.g., mucosal inflammation and vinous atrophy), which can lead to malabsorption of nutrients, including cobalamin. Thus, unless the cobalamin deficiency is rectified, patients may not respond to treatment for the underlying disease process.

Nora Berghoff, DrMedVet, PhD et al.
Am J Vet Res, Jan 2013

Rabies vaccine reaction

The most common type III vaccine-related event is post-vaccinal cutaneous vasculopathy. This event is almost always associated with subcutaneous rabies vaccine administration. Cutaneous vasculopathy is usually seen in dogs and rarely in cats. The cutaneous vasculopathy lesions consist of well-demarcated, often hyperpigmented areas of hair loss occurring at the vaccination site. Because it may take some time for the hair to epilate from the site, there may be a lag time of weeks to months after vaccination before cutaneous vasculopathy lesions become apparent. If recognized early, it may be possible to ***stimulate hair regrowth*** by treating with pentoxifylline at 25 mg/kg, PO, q12h and Vitamin E. Surgery may also be performed to remove the area of vasculitis-related alopecia. This problem can be prevented by avoiding the vaccine that induced the lesion.

Alice M. Wolf, DVM, Dip ACVIM
121st SD VMA Conf Procd

Generalized demodicosis and milbemycin

Milbemycin has been used for the treatment of generalized demodicosis in several clinical trials. It is indicated for use in cases that are "amitraz failures" or for dogs

that relapse after an "amitraz cure." It is safe to use in ivermectin-sensitive breeds when doses of less than 3.0 mg/kg are used. Patients should be tested negative for heartworm infestation prior to its use. The recommended dose is 0.5-2.0 mg/kg/day, PO. In one study, 92% of adult dogs with juvenile-onset demodicosis treated with 2.17 mg/kg/day, PO, for 90 days were cured. As with amitraz rinses, therapy is continued for at least 1 month beyond the second negative skin scraping. This therapy can be quite costly in large dogs.

Candace A. Sousa, DVM, Dip ABVP
Music City Vet Conf Procd, 02:11

Budesonide for IBD

The interest in veterinary medicine regarding budesonide is related to the treatment of various forms of IBD in dogs that are intolerant to prednisone or dexamethasone. In these patients, a drug able to combine potent local activity with a low number of systemic effects could be useful. One limitation of this study is the fact that the time period was too brief to enable the authors to evaluate the ability of the drug to adequately control IBD for a period >30 days. Thus, the possibility of any adverse effects with more prolonged administration is not known. However, even with this time limit, the authors confirmed that budesonide administered orally at 3 mg/m^2 appeared to ***provide an adequate therapeutic response*** without adverse effects in dogs affected by moderate or severe IBD, at least during the first month of treatment.

Marco Pietra, DVM et al.
Am J Vet Res, Jan 2013

Anesthesia, turtles and tortoises

1) Propofol IV (3-5 mg/kg) in the jugular vein or subcarapacial sinus, followed by intubation and maintenance on isoflurane or sevoflurane. 2) Dexmedetomidine (0.1 mg/kg) + Ketamine (10 mg/kg) + Morphine (1 mg/kg) combined and administered SQ; followed by intubation and maintenance on isoflurane or sevoflurane. Can reverse dexmedetomidine with atipamezole (same volume, SQ) and morphine with naloxone (0.04 mg/kg SQ).

Kurt Sladky, MS, DVM, Dip ACZM
WI CVM Conf Procd, 04:11

Heating devices

The risks of thermal injury are so great with older styles of electric heating pads that their use in anesthetized, sedated, or depressed (many critically ill) patients is considered extremely hazardous. The "Hot Dog" warming system, designed by Dr. Dan Augustine (vet-warming.com), is a very different dispersed electrical heating blanket to avoid thermal injury and safely warm the patient. Warm water bottles or surgical gloves filled with warm water have been shown to be rather ineffective in raising the body temperature of hypothermic patients and at the same time constitute a significant risk of causing thermal burns at the site of contact. Circulating warm water blankets are a much better alternative to warm water bottles or gloves. Forced warm air heating systems are more effective than circulating warm water blankets and can also be used to cool hyperthermic patients when set to deliver unheated ambient air. Proper use of forced air systems must include dispersive blankets to envelop the patient in warmed air and avoid hot spots by distributing the warmed air.

Ralph Harvey, DVM, MS, Dip ACVA
76th AAHA Conf Procd

Probiotics

The following is from a study of probiotics in humans. Several mechanisms have been proposed to explain how probiotics could have beneficial effects. *Saccharomyces boulardii, a* strain of the yeast S *cerevisiae,* has been shown to inhibit the pathogenicity of bacterial toxins. Acetic, lactic and propionic acid produced by *Lactobacillus* spp could lower intestinal pH and inhibit growth of pathogenic bacteria such as *Escherichia coli* and *Clostridium* spp and other probiotics in the intestinal tract might physically or chemically prevent adhesion and colonization of pathogenic bacteria. They may also induce or enhance an immune response. Probiotics can be found in various foods and dietary supplements. Yogurt is probably the most familiar source; according to the FDA, it must be made with *Lactobacillus bulgaricus* and *Streptococcus thermophilus* to be called yogurt in the US. While most probiotics have few, if any, adverse effects in otherwise healthy people, they have caused serious infections in some highly immunosuppressed or critically ill patients.

Med Let, Jan 7, 2013

Chest radiographs in the ER

One of the ***most common mistakes*** in the emergency room is not performing chest radiographs (a "met check") as part of routine geriatric diagnostics. Geriatric patients (defined as a dog 6-7 years of age [size-dependent] or a cat >12 years of age) with, for example, hepatosplenomegaly, icterus, hemoabdomen, immune-mediated disease, or fever of unknown origin should have chest radiographs done at the same time as abdominal radiographs. Typically, a three-view chest set is the method of choice; however, this may be difficult in emergency patients with dyspnea. That said, a right-and left-lateral chest radiograph is also an effective way to screen for metastasis. While a met check is often a "low-yield test" (i.e., the likelihood of identifying chest metastasis is relatively low), it is an important screening tool that can help veterinarians counsel pet owners on end-of-life decision-making and overall prognosis.

Justine A. Lee, DVM, Dip ACVECC
18th Int VECC Symp Procd, Sep 2012