C/E for the one who doesn't have time for C/E

"Pearls" of Veterinary Medicine

THE CAPSULE REPORT® FOR VETERINARIANS

Trusted By The Profession Since 1981

Volume 35 Number 12 March 2017

AT A GLANCE

General rules for shampoo therapy

Shampoos are the most frequently recommended form of topical therapy. When shampoos are used for a therapeutic purpose, advise the owner to observe the following rules: a) It may be wise to wash the pet quickly with ordinary grooming shampoo before applying the medicated shampoo. This will remove debris and oils, and allow the medicated shampoo to lather and distribute across the coat better. b) Allow 5-10 minutes contact time of the medicated shampoo with the skin, to allow penetration of the medicated ingredients. c) Medicated shampoos generally ***must be used at least twice weekly*** to have an effect. If the owner is only able to use the shampoo every 2 weeks, it may be relatively a waste of time! Though shampoos are effective, there may be client compliance problems with frequent use. Use of a lotion, foam, mousse, wipes, or spray may be much more convenient for the owner. In addition, these "leave-on" formulations have better residual effect than shampoos.

Douglas J. DeBoer, DVM, DACVD
SE Vet Conf, 06:16

MRSP, how it arises

Identified risk factors for infection by MRSP include hospitalization, surgery, antibiotic therapy, and chronic underlying disease commonly associated with Staphylococcal infection: Atopic Dermatitis, Food Allergy, Parasites, Hypothyroidism, and Hyperadrenocorticism. Most basically, veterinarians do not create new mutations of MRSP in our hospitals or our patients; rather our patients are exposed to MRSP that already exists in the environment, other dogs, or human carriers, while on antibiotics that eliminate MSSP. If a patient has an underlying condition that makes them susceptible to colonization and infection by S. *pseudintermedius,* by eliminating the wild-type Staphylococcus with antibiotics at therapeutic doses, we open the door to colonization by MRSP. Thus, clinically relevant ***resistance arises from use of antibiotics at therapeutic doses***, in direct contradiction of our past concerns that we create new resistant bacteria through subtherapeutic antibiotic use.

John C. Angus, DVM, DACVD
4th Derm For, Oct 2016

Puppy resuscitation

If heart rate is slow or weak, cardiac compressions are started coincidentally with intubation and ventilation. Lateral compressions work well in neonates due to their flexible chest wall. If multiple puppies require extensive resuscitation and oxygen administration is not available for all of them, careful mouth to nose (think blowing a cotton ball off your hand) or mouth to ET tube ventilation can be used for the less severely affected to stimulate breathing. Continuing to stimulate the puppy by ***pinching the skin along the back*** is also helpful. This author has successfully resuscitated puppies after working on them for as long as 45 minutes—these pups grew up to be apparently normal adults. The neonate is more tolerant of hypoxia than the adult, so we have a small advantage in that way.

Joni L. Freshman, DVM, MS, DACVIM, CVA
SW Vet Symp, 09:14

Options for treating otitis

Prior to dispensing otic medications, it is essential to determine whether the owners will be able to treat the ears at home. If not, it is better to consider the use of BNT ointment or, preferably, ear wicks. BNT (Baytril, Nizoral, triamcinolone) is made by BCP Compounding Pharmacy in Houston, TX. This ointment is a repositol which is very good for yeast infections and mild bacterial infections, but it is imperative that the ear drum is intact. This pack is not

The Capsule Report® is published monthly for veterinarians who wish to maintain high standards of practice

effective for chronic otitis externa associated with *Pseudomonas aeruginosa*. Ear wicks are great as they minimize owner contact with the ear. The wicks are placed dry into a cleaned and dried ear then wetted with the solution of choice. They can be left in for 1-2 weeks, with wetting every 3-4 days. The author obtains ear wicks from Jorgenson Laboratories, (www.JorVet.com).

Valerie A. Fadok, DVM, PhD
82nd AAHA Conf, 03:15

Benefits of belonging to IVAPM

What do most general practitioners assume about long-term NSAID use for arthritis that they shouldn't? Here's what the author has to say: General practitioners need to belong to the International Veterinary Academy of Pain Management. If they are not a part of IVAPM, they do not have access to the very most up-to-date information about pain and pain management. The IVAPM offers a credential called the "certified veterinary pain practitioner," which enables practitioners to enhance their understanding and expertise in chronic pain management. Too many veterinarians rely only on NSAIDs for managing the pain of osteoarthritis, and the fact is that, as stand-alone agents, ***NSAIDs are inadequate***. A similar misconception is that having several NSAIDs on the shelf means a practice is providing multi-modal pain care. Nope! Chronically painful patients must have neuro-modulation as a part of their pain care, and this means a tool like gabapentin-there is no other tool for this purpose than gabapentin. Gabapentin is an essential part of every pain case the author deals with. Unfortunately, most practitioners are utilizing gabapentin doses that are completely inadequate, and then conclude that it doesn't work.

Robin Downing, DVM, DAAPM, DACVSP
Vet Pract News, 27:7

Insulin recommendation in the cat

In general, longer-acting insulin preparations, such as PZI *(ProZinc),* glargine, or detemir insulin, worked better than lente or NPH in newly diagnosed diabetic cats when diabetic remission was the goal. Because the majority of diabetic cats require PZI insulin twice a day, this author prefers to start with twice a day PZI therapy (1 U BID); the insulin dose is low to avoid problems with hypoglycemia and development of the Somogyi phenomenon. Subsequent increases in the PZI dosage should be based on owner perception of their cat's response to treatment, urine glucose readings, changes in physical examination and body weight, and the results of blood glucose and serum fructosamine measurements. The author ***does not recommend using compounded PZI products*** because studies have reported that potency can vary greatly from batch to batch making tight regulation difficult. It's difficult enough to regulate a diabetic cat without the additional variable of the insulin changing its potency every time the owner buys a new bottle. It is far better to get manufactured insulin that has external quality control standards applied to it.

Mark E. Peterson, DVM, DACVIM
Midwest Vet Conf, 02:16

Long term use of NSAIDs

A good thing to remember is that using an NSAID chronically does not increase the chance of developing adverse events with the liver [and] kidneys. For example, if a dog is on an NSAID for 6 months and another dog is on an NSAID for 3 years, this does not mean that the dog on it for 3 years has a 6 times greater risk of developing organic disease from the NSAID. The adverse events that we see seem to be individual events. Another thing to keep in mind about long-term NSAID use is that if one NSAID stops working then another may work better. Initially, this is a good bet. There are individual variations in how one's body responds to drugs, so after a wash out period, it is reasonable to try a different NSAID if the first one does not work well. This is recommended in the acute phase of treatment. However, if you have used a NSAID chronically and it worked well, then all of a sudden it does not seem to work anymore, you should assume that you are seeing some mal-adaptive pain situation—that we have now reached spinal cord wind-up, and you need to add additional pain manageent to the NSAID to continue to offer relief.

Jennifer F. Johnson, VMD, CVPP
Vet Pract News. 27:7

FIP effusion analysis

General characteristics: Usually straw-colored and cloudy. A stable froth develops on shaking due to high protein content. May clot when left standing at room temperature or when refrigerated. The fluid is bacteriologically sterile. Classified as non-septic exudate or modified transudate, based on protein level and cell counts. Often erroneously described as a pyogranulomatous fluid. Albumin:globulin ratio is important. A ratio of >0.8 excludes a diagnosis of FIP. A ratio of <0.45, with a protein level of >3.5 g/dL, and typical cytological content (non-degenerative neutrophils, macrophages, a few plasma cells and lymphocytes, and a granular background of stained protein precipitates), is ***diagnostic for FIP*** when bacteriologically sterile. The Rivalta test can be used to evaluate effusion fluid for increased levels of acute-phase proteins. A drop of effusion fluid is added to a mixture of water and 98% acetic acid. If the effusion fluid congeals at the top of the test tube and does not sink and disperse, then the suspicion for FIP is increased.

Dr. John R. August
SW Vet Symp, Oct 2016

Diagnosing CCL

Depending on where in the progression of the disease a pet is presented, often clients will relay a lameness that "comes and goes" often exacerbated by moderate to heavy activity. In many cases there has been 6 plus months of intermittent weight bearing lameness or even times of a non-weight bearing lameness. However, these dogs when excited will often run on the affected leg as if

"nothing is wrong" for short distances, but then be lame at rest. Owners will often note when the dog is standing, the toes of the affected side are not as extended and/or the pet shifts weight to the opposite side. Clients will often observe what is called a positive "sit test." The pet will sit with the affected limb projecting off to one side rather than sitting squarely like a sphinx. A positive sit-test is a tell-tale sign of a partial CCL injury. Once the diagnosis of a partial CCL tear is made, the author does not recommend trying to treat it conservatively (rest, NSAIDs...) Conservative management only draws the process out longer and often results in a fresh partial CCL tear becoming a chronic osteoarthritic stifle with a less than ideal clinical outcome. It's not a matter of if it's going to tear all the way, but just a matter of when.

Robert M. Radasch, DVM, MS, DACVS
N Amer Vet Conf, 01:15

Inducing brachycephalic dogs

This author uses alfaxalone or ketamine and a benzodiazepine (midazolam). Another option is ketofol, which is ketamine and propofol mixed together in the same syringe — 2 mg/kg of each. Propofol used by itself can cause apnea. While these brachycephalic patients survive in near hypoxic environments, they cannot tolerate much hypercapnia, which the propofol will greatly add to.

Phil Zeltzman, DVM, DACVS, CVJ
Vet Pract News, 28:6

Resolving vomiting with dietary change, cats

Some cats with vomiting due to food-related causes will respond to placing them on a high-protein, low-carbohydrate diet (canned growth or diabetic formula foods). The reason why kittens or cats respond to these diets is not known, but may be related to carbohydrate intolerance or to changes in the bacterial flora that result from high-starch foods. While this hypothesis remains to be proven in cats, there is increasing anecdotal evidence that in cats with signs of GI disease such as vomiting, feeding a canned diet containing either highly digestible moderate carbohydrate or high-protein and low-carbohydrate content is beneficial. Obviously, dietary therapy is not the answer to effective control in all vomiting cats but in many of these cats dietary therapy is an important component of therapy that should be careful considered and implemented, and adjusted to meet the needs of the pet and its situation.

Debra L. Zoran, DVM, PhD, DACVIM
20th ABVP Conf

New guidelines for end-of-life care

The 2016 AAHA and The International Association for Animal Hospice and Palliative Care have developed guidelines for end-of-life care. The guidelines are available at aaha.org. After the loss of a pet, studies show 30% of pet owners experience significant grief and 50% will doubt their decision following euthanasia. In addition, team members who work with end-of-life patients and their owners have a higher risk of developing compassion fatigue. The guidelines also advocate multimodal pain management in the form of pharmacologic management, environmental modification, diet and gentle handling techniques. In addition, the guidelines cover bio-ethical considerations, discussing euthanasia versus natural death with clients, supporting grieving clients, avoiding compassion fatigue and more.

Brenda Stevens, DVM, DABVP
DVM News Mag, Jan 2017

Emergency treatment of seizures

Emergency treatment of seizures most commonly employs the use of benzodiazepines (diazepam, midazolam) given IV, 0.5 mg/kg. Midazolam may also be given IM, but this is not recommended for diazepam. Both may be given rectally but at higher dosages. If a pet is on phenobarbital the rectal dose of benzodiazepines is 2 mg/kg; but if not on phenobarbital it is 1mg/kg. Additional emergency treatment drugs and dosages include phenobarbital up to 20 mg/kg, IV; zonisamide 30 mg/kg, orally or rectally mixed in water; Keppra 20-30 mg/kg, orally or IV; or potassium bromide 800-1200 mg/kg, orally. This loading dose of KBr should be divided into at least 4 doses to avoid gastric irritation. It may be given over 4 hours or 4 days, depending upon how quickly you need the effects. If there is an initial response to the benzodiazepines but seizures recur, a CRI at 0.5 mg/kg/hr may be started and tapered over 6 hours. If the seizures are not responsive to these emergency treatments, additional protocols to consider include ketamine with 5 mg/kg, IV bolus followed by a 5 mg/kg/hr, CRI; propofol with a 4-8 mg/kg, IV bolus followed by 8-12 mg/kg/hr, CRI, or isoflurane-induced anesthesia.

Peter J. Brofman, DVM, MS, DACVIM
SW Vet Symp, Oct 2016

Heatstroke, hypothermic presentation

The most common clinical signs of canine heatstroke include collapse, shock, tachypnea, spontaneous bleeding (e.g. petechiae, hematemesis, and hematochezia), disorientation/stupor, coma and seizures. Although the definition of heatstroke is based on hyperthermia causing shock and hypotension, it is ***important to remember*** that patients can be hyper-, normo- or hypothermic on presentation, particularly if cooling measures were initiated by the owners prior to presentation. Furthermore, in a retrospective study of canine heat related illness, hypothermia upon admission was a poor prognostic indicator. Therefore, heatstroke should not be disregarded in a patient with normal or low core temperature if the history reveals recent exercise or confinement in a hot and humid environment, recent cooling by the owner and clinical and/or clinicopathological findings compatible with heat related illness. Acute collapse, abnormal mentation, hypoglycemia and hyperemic mucus membranes, are common in dogs with heat induced illness.

Yaron Bruchim, DVM, IVIMS, DACVECC, DECVECC
22nd Int VECCS Symp, Sep 2016

Feline mammary tumors

Due to the frequent lymphatic invasion of these tumors, en bloc resection with lymph node removal would appear to be necessary (uni-or bilateral radical mastectomy). Radical surgery does indeed prolong remission duration (disease-free interval), but it ***does not significantly affect survival time***. At this writing, there is no solid evidence that radical mastectomy affords a better chance of curing feline mammary adenocarcinoma than does lumpectomy or simple mastectomy. Due to the systemic nature of the tumor, some sort of adjuvant chemotherapy appears imperative. One clinician demonstrated objective response in feline mammary carcinoma to doxorubicin-cyclophosphamide (1 mg/kg doxorubicin day 1, cyclophosphamide 100 mg/m^2,orally days 3, 4, 5, 6; repeat cycle every 3 weeks), so this combination may be useful. It was also determined that adjuvant doxorubicin chemotherapy prolonged life in cats, but did not cure them; cats treated adjuvantly with doxorubicin had a median survival time of 448 days, which was considered to be longer than cats in historical studies with surgery alone. Because feline mammary tumor cells only rarely contain estrogen receptors, ovariohysterectomy and estrogen receptor-blocking therapy have not been shown to be beneficial in the tumor-bearing cat.

Claudia L. Barton, DVM,DACVIM
19th Tex A&M Fel Conf, 04:15

Bacterial overgrowth

Bacterial overgrowth is better defined as antibiotic-responsive enteropathy (ARE). This syndrome is probably a result of increased bacteria in the upper small intestine and the resulting host response. The bacteria are not obligate pathogens and can be ones that are usually found in that area. The host response may be inflammatory or dysbiosis. ARE is difficult to definitely diagnose and empirical antibiotic therapy may be chosen as a means of diagnosis. However, antibiotic choice is difficult because any bacteria species can be present in the small intestine and the species may change over time. Tylosin is a popular antimicrobial choice. Also, metronidazole can eliminate many anaerobic bacteria and may also be immunomodulating. An antibiotic trial should be done for at least 2–3 weeks. The patient may respond to concurrently feeding a therapeutic diet trial. If the patient can tolerate a therapeutic diet trial, this is worthwhile to rule out food sensitivity. It must be stressed that during this trial, no other foods or treats can be given. This includes flavored heartworm or flea control products. This diet should be implemented for a minimum of 2–4 weeks. It is rare that longer periods are required as a trial. If the diet resolves the diarrhea, continue for another 3-4 weeks to ensure that it was not a transient improvement. It has been seen that up to 50% of cases of chronic diarrhea will resolve with a diet change. Also the author has seen that 50% of those cases may be able to be changed back to the original diet with time.

Dianne Mawby, DVM, MVSc, DACVIM
Music City Vet Conf, 02:16

Acid suppressants, frequency of use

For oral omeprazole, q12h dosing has been found to be superior to q24h dosing in healthy cats; moreover, studies in dogs suggest that 2 mg/kg, q24h may be less effective than the same total daily dose divided over 2 doses (i.e., 1 mg/kg, q12h). Only q12h dosing has been shown to raise intragastric pH in dogs and cats to a level associated with healing duodenal ulcers and gastroesophageal reflux in humans. Therefore, 1 mg/kg, q12h is recommended for omeprazole when treating ulcerative disease in dogs and cats. Further studies are needed to determine if q12h or q24h dosing is optimal for other disorders thought to predispose dogs and cats to gastric hyperacidity (e.g., renal disease, hepatic dysfunction).

Emily Gould, DVM, MS and M. Katherine Tolbert, DVM, PhD
NAVC Clin Brf, Nov 2016

FIC pearls

When multi-modal environmental modification (including environmental enrichment) is effectively implemented, treatment with drugs is RARELY NEEDED. Stress upregulates the inflammatory potential of several organs, including the bladder. Bacterial urinary infections (UTI) are rarely identified in cats with signs of lower urinary tract disease, unless they have specific risk factors (U-cath within last 6 months, perineal urethrostomy, dilute urine - CKD, diabetes mellitus, hyperthyroidism). This author advocates the use of analgesia (buprenorphine) during acute episodes of FIC. The author uses tranquilization with acepromazine in combination with buprenorphine in most cases of non-obstructive episodes. On occasion, the use of amitriptyline can be useful in the treatment of FIC. The use of glycosaminoglycan supplementation has failed to show an effect superior to placebo in several studies of FIC treatment. The use of feline facial pheromones has not been shown to be superior to placebo in the treatment of FIC. The feeding of as much wet food as possible is advocated by some for its protective effect on the recurrence of the signs of FIC, and may be helpful as long as it does not result in additional threat to the cat. Sometimes a so-called ***"placebo" treatment*** actually can have a positive effect between the cat, the owner, and the environment such that a positive outcome is achieved. In most cases, antibiotic treatment does not have a role in the treatment of FIC. Treatment of FIC with glucocorticosteroids has not shown an effect greater than that of placebo in limited study. Chronic treatment of FIC with NSAIDs is NOT ADVOCATED due to the high sensitivity of the cat to sustain renal injury with this class of drugs, especially if there is any tendency toward dehydration.

Dennis J. Chew, DVM, DACVIM
VA VMA Conf. 02:15