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

"Pearls" of Veterinary Medicine

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Reducing side effects of cyclosporine

Most commonly cited side effect associated with administration of Cyclosporine to dogs and cats is GI upset, notably vomiting, diarrhea and inappetence. Various options for administering oral Cyclosporine can help alleviate GI side effects. 1) Administer concurrent antiemetic (e.g., metoclopramide, maropitant). ***Administer frozen capsules***—In dogs, may decrease blood concentrations and jeopardize treatment efficacy. 2) Administer capsules with small amount of food—In dogs, may decrease blood concentrations and jeopardize treatment efficacy. 3) Start at a lower dose (1-2 mg/kg, q24h] and gradually increase to final dose—Not appropriate for life-threatening immune mediated diseases, such as immune-mediated hemolytic anemia. 4) Decrease dose.

Todd M. Archer, DVM, MS, DACVIM, Claire L. Fellman, DVM
Plumb's Ther Brf, Jan 2015

Over-due booster vaccination

FICTION: A dog or cat that is overdue for CORE vaccines must restart the initial 3-dose series to be immunized. FACT: Regardless of the number of weeks, months, or years *overdue* a dog or cat may be, administration of a single dose (MLV or Recombinant CDV), is expected to rapidly induce a protective level of antibody. The reason: immunologic "memory."

Richard B. Ford, DVM, MS, DACVIM, DACVPM (Hon)
Music City Vet Conf, 02:14

Beware of compounded itraconazole

Itraconazole is available in generic capsules, which are somewhat cheaper than Sporanox and are OK to use. However, DO NOT USE itraconazole that has been obtained as "bulk powder" or made by a compounding pharmacy from bulk powder. If it's cheap, beware!!! The author has seen numerous failures due to using this. Itraconazole must be formulated in special vehicles so that it can be absorbed. The bulk powder may merely pass out into the stool without being absorbed!

Douglas J. DeBoer, DVM, DACVD
Mich Vet Conf 01:13

Valueable Information Inside

Diet for pancreatitis

A typical starting diet for dogs with acute pancreatitis (AP) is a product restricted in fat to approximately 20% ME or less. Royal Canin Gastrointestinal Low Fat LF and Hill's i/d Low Fat are currently the lowest-fat canine commercial diets. The canned formulas can be mixed with water into a slurry and fed through E- and G-tubes. Dogs that are interested may eat the dry or canned formulas voluntarily. Other restricted-fat diets are generally formulated for weight loss or weight maintenance but these are higher in fiber and bulk (not highly digestible, low-residue diets). Lowfat cottage cheese can be mixed with plain white rice to create a temporary low-fat, low-fiber, digestible diet. The recipe is 1/2 cup (4 ounces) low-fat (2% milkfat) cottage cheese, 1 1/2 cups cooked white rice, and 1 teaspoon corn oil. This supplies 450 kcal which is the daily amount for a 25-lb dog and is very low in fat (14% ME).

Craig Datz, DVM, MS, DABVP, DACVN
Gulf Atl Vet Conf, 09:14

Treating chronic cough

In this author's experience OTC dextromethorphan medications (Robitussin) are rarely effective in treating chronic cough. Stronger narcotic-containing medications are usually more effective. Butorphanol is available as a canine-approved oral formulation for cough suppression. Hydrocodone + homatropine (Hycodan, Tussigon) is the other human-approved narcotic agonist option. The author finds no advantage to one drug versus the other in most patients. The key factor in treating dogs with these medications is if you truly want to reduce or stop a cough you must be aggressive in both dose and frequency of administration. It often requires administration every 4-6 hours to suppress a cough to a degree that you will notice clinical benefit. The only limiting factor to dose and frequency is sedation. Once the cough cycle has been suppressed for a few days and the airway mucosa is less irritated, the frequency of administration can often be reduced. Combining an anti-inflammatory medication such as Temaril-

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P (prednisone-trimeprazine) or prednisone for a short period may also be helpful if the cough is not due to an infectious etiology. Both narcotic drugs can be used safely combined with appropriate cardiac medications for suppression of cough associated with an enlarged left atrium. Diphenoxylate (***Lomotil***), an opiate antidiarrheal, is an alternative narcotic agent that ***occasionally seems to provide better cough suppression*** in select patients. Reduced appetite and constipation are possible with continuous use. Dosages follow. Butorphanol – 0.5 mg/kg, PO starting dose q4-12h. Hydrocodone - 0.25 mg/kg, PO, q4-12h. Diphenoxylate - 0.2-0.5 mg total dose, PO, q12h.

Gary P. Oswald, DVM, MS, DACVIM
N Amer Vet Conf, 01:13

Kidney "insufficiency" in the cat

Veterinarians should be careful when using the term "kidney failure" in talking to cat owners. To determine kidney function, creatinine and blood urea nitrogen tests are conducted. Kidney failure occurs in a dog in which the creatinine value from blood tests is over 2.5 mg/dl, giving a dog a month or two to live. A creatinine number over 2.4 signals kidney trouble for a cat, yet actual kidney failure for a cat doesn't start until that number reaches 5.0 or 5.5 mg/dl. Poor word choice can come into play when a veterinarian gets blood test results back with a creatinine value over 2.4 for a cat. Many cats are diagnosed with kidney failure that don't have failure. This author advises practitioners to use the term "kidney insufficiency," a phrase considered to be more accurate to describe cats in this range. That's an important distinction. If you use the term "failure," owners wonder if their cat's about to die. So cats often get euthanized when they shouldn't. With proper treatment, cats with kidney insufficiency frequently live for one to three years before kidney failure and death, and they can live a fairly normal life.

Gary Norsworthy, DVM, DABVP
Vet Pract News, Feb 2015

Multi-dose activated charcoal

Human studies have found that multi-dose AC significantly decreases the serum half-life of certain drugs, including antidepressants, theophylline, digitoxin, and phenobarbital. While veterinary studies are lacking, there is likely an added benefit from using multi-dose AC, provided the patient is well hydrated and monitored appropriately. Certain situations or toxicities, including drugs that undergo enterohepatic recirculation; drugs that diffuse from the systemic circulation back into the intestinal tract down the concentration gradient; or ingestion of SR, XR, or long-acting (LA) release products will require multi-dose administration of AC. Keep in mind that when administering multiple doses of AC to a patient, the additional doses ideally should *not* contain a cathartic (e.g., sorbitol), due to increased risks for dehydration and secondary hypernatremia. Current recommended dosing for multiple doses of AC is 1-2 g of AC without a *cathartic* /kg, PO, q4-6, for 24 hours.

Justine A. Lee, DVM, DACVECC
N Amer Vet Conf, 01:13

Refractory chronic gingivostomatitis

The author's approach is to manage cats with refractory chronic gingivostomatitis (CGS) in a manner similar to treating cats with immune-mediated hemolytic anemia, in that immunosuppressive doses of corticosteroids are administered. For the average 4.5-kg cat with refractory (i.e. those that continue to exhibit signs after all teeth are extracted) CGS, a dose of 10 mg of prednisolone q12h is administered either orally or transdermally for 3-4 weeks before beginning a slow taper of 25% of the dose every month, provided inflammation is controlled and comfort is maintained. Cats treated with high doses of oral or transdermal corticosteroids are at increased risk for diabetes mellitus; however, the induction of diabetes is often transient and resolves once the steroid dose is reduced or discontinued.

Eric M. Davis, DVM, DAVDC
NAVC Clin Brief, Jan 2015

The "art" of lameness evaluation

This author is coming to discover that more often than not, our patients WANT to tell us where it hurts, but only if they trust us. The author works to become a friend of his patients before being their doctor. "I like to get down to their level on the floor and allow them to approach me first (rather than the other way around). I learn my patient's name and use it often as I speak to him." Dogs like to hear their name! Take time up front to greet your patient by name and pet him and talk to him. A few minutes invested into the relationship with the pet will be many minutes saved later as you try to get him to communicate with you what is bothering him. The more your patient trusts you, the more accurately he will convey what is going on and he will be less likely to either squeal at every one of your maneuvers or to play the role of the stoic and hide from you his responses to your manipulations. Just as you are not likely to open up and tell all your concerns to a stranger, neither is your patient. Remember, that your lab coat and your diploma on the wall mean very little to your patient. Instead, the smell of your hand, the feel of your touch and hearing you speak his name are MUCH more meaningful to a dog.

Ross H. Palmer, DVM, MS, DACVS
N Amer Vet Conf, 01:13

Rat-bite fever in pet rats

A new report highlights the risk of rat bite fever among owners of pet rats. In August 2013, the County of San Diego Health and Human Services Agency was notified of a ***fatal case of rat-bite fever*** in a 10-year-old boy who owned pet rats. Rat-bite fever is caused principally by *Streptobacillus moniliformis*. Tissues collected postmortem from the patient were positive for S

moniliformis. During the 10 days before his death, the patient had obtained his second pet rat; S *moniliformis was* detected in tissue from the rat. The autopsy report noted that the patient had been scratched by his pet rats. The authors of the report identified 17 additional cases of rat-bite fever in San Diego County from 2000-2013. The median patient age was 10 years, and all but one of the infections were pet-associated. None of these cases was fatal.

JAVMA, Feb 15, 2015

Key points in feline asthma

1) Limit exposure to airway irritants. 2) Oral steroids (prednisolone at 5 mg, q12h X 10 days, then tapered to 2.5-5mg, once a day.) It is likely that cats will need lifelong therapy, and the goal is NOT to get them off steroids, but rather control airway inflammation. 3) Inhaled steroids (fluticasone 110-220 µg, q12h, using feline spacer [e.g. Aerokat]) may be substituted. In this case, fluticasone and oral prednisolone are started for ~14 days, then the oral prednisolone tapered. 4) Doxycycline or azithromycin if infection is suspected (uncommon). 5) Bronchodilation may be provided in the acute setting with either injectable terbutaline (0.01 mg/kg, SQ) or inhaled albuterol. If respiratory distress is present, treat with 1-4 mg/CAT of dexamethasone, beta-2 agonist, and supplemental oxygen until the crisis resolves, then initiate or continue steroid maintenance therapy.

Elizabeth Rozanski, DVM, DACVECC, DACVIM (SA-IM)
98th WI VMA Conf Procd

Post-procedure pain management in the rabbit

Post-procedure management of pain is possibly one of the most important aspects of pain control for small mammals. It is not uncommon that after a successful anesthesia and surgery and even an initial recovery where the animal starts to eat and drink, that after discharge the animal declines within the next 24-48 hours and possibly dies. This is a typical case of inappropriate pain management. It is vital for appropriate post-procedure management of the case that there is a thorough understanding of the pharmacokinetic details of the different drugs, such as half-life and side effects. As a general rule, analgesics first should be administered before the animal is fully recovered from anesthesia and should be continued for at least 24 hours after the procedure. In certain conditions an animal needs to be on chronic pain medication, possibly for the rest of its life. In order to avoid harmful side effects, the analgesic medication should be tailored to the minimal dose at which all signs of pain disappear. A 2- to 3-week-on, 1-week-off treatment protocol might be indicated for chronic analgesic usage.

Joerg Mayer, DVM, MSc, DABVP, DECZM
N Amer Vet Conf, 01:13

Boxer colitis

Histiocytic ulcerative colitis, also known as "Boxer colitis" is being seen more commonly now than it was 5-10 years ago. First described about 30 years ago, it was a horrible, progressive disease of young Boxers (and sometimes related breeds, such as the French Bulldog) that invariably had a terrible prognosis. The signs are those of severe large bowel disease (lots of hematochezia and fecal mucus) plus weight loss. Diagnosis is made histologically by finding PAS-filled macrophages in the mucosa. Recently, it has been discovered that this is an antibiotic-responsive disease. ***Enrofloxacin seems to be particularly effective*** but any number of antibiotics will work. The biggest problems are that a) many people (clients and veterinarians) are reluctant to biopsy the dogs because they assume that any disease so severe must have a bad prognosis, and b) many pathologists have never seen it and miss it, even when it is fairly obvious to the experienced eye. It is best to biopsy the dog instead of giving empirical enrofloxacin therapy since other treatable diseases may be present (e.g., histoplasmosis) that also can be successfully treated if therapy is begun in a timely fashion. If antibiotics are given, it is important to treat for several weeks to ensure eradication of the bacteria, lest resistant strains be selected for and allowed to cause a relapse that is more difficult to control than the initial presentation.

Michael D. Willard, DVM, DACVIM
SW Vet Symp, 09:13

Toilet water ingestion

Tank "drop in" products typically contain anionic/nonionic detergents, cationic detergents, bleach, and/or acids. However, when a tank "drop in" cleaning product is used in a toilet, the actual concentration of the cleaner is very low in the bowl. With dilution by the bowl water, the cleaning agent is just a gastric irritant. Common signs seen with ingestion include mild vomiting and nausea.

Tina Wismer, DVM, DABVT, DABT
98th WI VMA Conf

Antibiotic use in rabbits

Certain antibiotics (e.g. clindamycin, lincomycin, ampicillin, amoxicillin, amoxicillin-clavulanate, cephalosporins, many penicillins, and erythromycin) can alter large bowel ecology, threaten favorable microorganisms, and promote bacterial pathogen growth (e.g., *E coli* and *Clostridium*) and toxin production. The resulting bacterial dysbiosis can lead to enteritis, enterotoxemia, and GI stasis. Severe cases can be life-threatening. Antibiotic-associated dysbiosis may be avoided by using only appropriate broad-spectrum antibiotics (e.g., trimethoprim-sulfas, fluoroquinolones, chloramphenicol, aminoglycosides, azithromycin, and metronidazole). Oral antibiotics are more likely to cause dysbiosis in rabbits than are injectable antibiotics. Good example: ***oral penicillins are strictly contraindicated in rabbits***, but procaine + benzathine penicillin combination is safe and effective (especially for anaerobes/odonto-

genic abscesses) when administered as a subcutaneous injection.

Dan H. Johnson, DVM, DABVP (ECM)
N Amer Vet Conf, 01:13

Misdiagnosing hyperthyroidism

A high circulating total T4 concentration is the biochemical hallmark of hyperthyroidism and is extremely specific for its diagnosis. False positive results (i.e., a high T4 in a cat without hyperthyroidism) are rare but are being seen with increasing frequency, especially with the automated enzyme immunoassays (EIA). However, about 25%-30% of cats presenting with borderline-high total T4 values, sometimes together with high free T4 concentrations, turn out to be euthyroid. The reason for this high incidence of misdiagnosis is unclear but may be related to the increasing use of screening T4s as part of the cat's annual "wellness" program. If a high total T4 concentration is measured in a cat without the characteristic signs of hyperthyroidism, one should always repeat the cervical palpation and verify the T4 concentration using a different technique, with RIA or CEIA being preferred in such cats. Again, if we have any doubt about the diagnosis, thyroid scintigraphy should be considered. It's extremely important to remember that ***hyperthyroidism is a clinical diagnosis*** and should never be based on a serum T4, free T4, or TSH concentration alone. One MUST combine these lab results with the cat's clinical features and the presence of a palpable thyroid nodule to make the diagnosis.

Mark Peterson, DVM, DACVIM
Am Ass'n Fel Pract Conf, 09:14

A novel technique for treating aural hematoma

A method that this author has used allows excellent drainage of the hematoma but also provides better protection from disruption of healing surfaces from shear forces than other minimally invasive drainage techniques (the Bakers Punch technique). The author has had rare recurrences with this technique and the treated ear is soft with barely perceptible scars from the punch areas after healing. Be sure to clip hair from both surfaces of the pinna. A 3.5 mm or, in large dogs, a 5 mm punch is used to create holes in the inner surface of the pinna into the hematoma. Holes are made about 1-1.5 cm apart and are not made any closer than 1 cm from the pinna margin. Make sure all fluid and clots are evacuated from the hematoma. Use 4-0 monofilament nonabsorbable suture material with a cutting needle to tack the inner surfaces of the hematoma at each hole. Insert the needle through the hole and catch a bite of the cartilage only (not through the skin) on the opposite side of the hematoma. Bring the needle through the skin on the inner concave portion of the pinna and knot the suture so that the inner surface of the hematoma firmly contacts the outer surface. The ear is aseptically bandaged over the top of the head or around a roll of cotton for 1-3 days. Remove the bandage and determine if head shaking occurs. If it does, keep the ear bandaged until suture removal in 3 weeks. A short Elizabethan collar is placed on all patients after any type of aural hematoma treatment.

Daniel D. Smeak, DVM, DACVS
74th Co St U Vet Conf, 04:13

Tap water as a lavage

Previous trials have reported no difference in infection rate when tap water was used for wound cleansing as compared with normal saline. In acute wounds, however, tap water was more effective than saline in reducing infection rates in adults and was not statistically different from saline when used on acute wounds in children. Based on these studies, it seems likely that animals would have a similar response, and that copious, gentle lavage of wounds ***can be performed with tap water***.

Karen Tobias, DVM, MS, DACVS
N Amer Vet Conf, 01:13

Treatment of urine marking

In a recent meta-analysis of ten studies in nine publications that evaluated pharmacotherapy or pheromone therapy for urine marking in cats, there was a significant ($P<0.001$) association between the use of any intervention and the number of cats that ceased or reduced urine spraying by at least 90%. Fluoxetine, clomipramine and pheromones all exceeded the effects of placebo. The greatest effect was achieved with fluoxetine in combination with environmental management, followed by clomipramine. Pheromones also resulted in significant reduction in marking but lower probability of cessation.

Gary M. Landsberg, DVM and Ilana Reisner, DVM
West Vet Conf, 02:13

Guidelines for ACEI in kidney disease

General guidelines for use of ACE-inhibitors in chronic kidney disease (CKD) include rechecking renal function in 1 week following start of ACE-inhibition to make sure that GFR has not been reduced too much. It is common to see a small increase in serum creatinine at this time (20%-30% increase over baseline). If creatinine has increased too much, reduce the dose of the ACE-inhibitor. Some dogs and cats are ACE-inhibitor intolerant in that their renal function will be much worse during initial treatments so that treatment must be discontinued. The author also recommends to recheck the UPC 1 and 3 months after the start of ACE-inhibition. The goal is to achieve a 50% decrease in UPC in those in which it was initially increased. There does not appear to be much difference between benazepril or enalapril for clinical use in the dog or cat with CKD. Benazepril is cleared by both the kidney and liver compared to enalapril being cleared only by the kidney.

Dennis J. Chew, DACVIM
98th WI VMA Conf, 10:13