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Chronic vomiting in cats, not normal

There is growing evidence that some cats with chronic enteritis transition into lymphoma. This should motivate the practitioner to be aggressive in getting biopsies of these cats so the disease can be diagnosed at the more treatable stage. The presence of vomiting alone and vomiting with weight loss are the basis for the author's theory that small bowel thickening causes hypomotility. Hair and food move through the bowel at subnormal speed. When more hair or food is ingested, the full bowel results in reflux vomiting. As the bowel wall thickens further, nutrients are not absorbed properly, resulting in weight loss and compensatory polyphagia, well recognized clinical signs of cats with intestinal lymphoma. The author hypothesizes that formation and ***vomiting of hairballs are due primarily to hypomotility*** of the small bowel. Instead of moving aborally at the normal speed, hair moves slowly, resulting in hairball formation. This author is convinced that the vomiting of hairballs is a sign of chromic small bowel disease if it occurs twice a month or more in any cat; or if it occurs once every 2 months or more in shorthaired cats; or if it occurs in cats that are not fastidious groomers, i.e. presented with many mats in their haircoat or with heavy dandruff. Chronic small bowel disease is very common and can cause chronic vomiting, diarrhea, weight loss or a combination of these signs. It is time to quit accepting timeworn excuses and treating these cats symptomatically. Get a diagnosis so you can treat appropriately and prevent the transition from IBD to lymphoma.

Gary D. Norsworthy, DVM
Vet Pract News, Jan 2014

Trusting a vaccine's 3-year immunity

Veterinarians can be confident in their core vaccines: all those created for dogs and cats by major veterinary companies induce an immune response that lasts well beyond three years—even if the vaccine is labeled as a one-year vaccine. This duration of immunity is demonstrated by antibody titer testing, which verifies the presence of antibodies targeted to a particular disease agent in the animal's system. Even though a titer may not come back from the lab as positive, that doesn't necessarily mean the dog is susceptible to infection. The only difference between those that have the 3-year label and those that don't is that some have conducted the research and others haven't. Among reputable manufacturers, all core vaccines for dogs and cats will provide well over a 3-year response. Representatives from vaccine manufacturers Merck and Merial stated that if an animal given a one-year vaccine develops a break in immunity within 3years, the manufacturer will provide financial and technical assistance for the patient and pet owner.

Laurel Gershwin, DVM, PhD, Dip ACVIM
DVM News Mag, Dec 2013

INSIDE THIS ISSUE

Sources of compounded PZI insulin

1) BCP Veterinary Pharmacy, Houston—BCP PZI bovine insulin. 2) RoadRunner Pharmacy, Phoenix: human-origin PZI insulin. 3) Wedgewood Pharmacy, Swedesboro, NJ: PZI made with human recombinant insulin. 4) Stokes Pharmacy, Mount Laurel, NJ: PZI made from humulin or naturally derived animal insulin. Note: other compounding pharmacies may also offer the insulin.

Lou Anne Epperley, DVM
Vet Pract News, Nov 2013

Benefits of long-term NSAIDs

Although we commonly focus on NSAIDs as analgesics in acute pain, they have other, less obvious, benefits. One of the least appreciated is that early use of NSAIDs with trauma and/or perioperatively can help ***prevent the development of chronic pain states*** and persistent postsurgical or traumatic pain syndromes. Untreated or inadequately treated acute, inflammatory pain is a major and controllable risk factor for the development of chronic pain. There is increasing evidence that long-term use of NSAIDs in treatment plans for chronic pain can reverse central sensitization and allow for reduction in analgesic use over time. Veterinarians have the potential to greatly impact their patients' future comfort and quality of life by aggressively treating inflammatory pain.

Lisa Moses, VMD, Dip ACVIM
80th AAHA Conf Procd

The Capsule Report® is published monthly for active people interested in current topics and trends in veterinary medicine.

Ingestion of Venlafaxine

Venlafaxine (Effexor) is a bicyclic antidepressant; it is a potent serotonin and noradrenaline reuptake inhibitor as well as a weak dopamine reuptake inhibitor. It is available as both an immediate release and extended release medication. While it is rare for cats to willingly ingest medications, cats and dogs seem to readily eat Venlafaxine. Mydriasis, vomiting, tachypnea, tachycardia, ataxia and agitation are the most common signs. Treatment would consist of emesis in asymptomatic individuals. Activated charcoal can be administered with a repeated dose in 4-6 hours if an extended release formulation was involved. Heart rate and blood pressure should be monitored. Acepromazine may be used for the agitation, and cyproheptadine may be useful in antagonizing the serotonin effects. With ingestion of the extended release medication, cats can be symptomatic for up to 72 hours. Venlafaxine is lipid soluble, so ***intralipids can be used to decrease plasma levels*** and decrease treatment time. Liposyn, or any other 20% lipid solution can be given through a peripheral catheter. A bolus of 1.5 ml/kg is given, followed by 0.25 ml/kg/min for 30-60 minutes. This is repeated in 4 hours if the serum is clear. As an aside, Venlafaxine will cause a false positive reaction for PCP on the OTC urine drug tests.

Tina Wismer, DVM, Dip ABVT
WI VMA Conf Procd, Oct 2013

Analgesia for pancreatitis

Analgesics should be considered in all patients with pancreatitis, even if there is no outward evidence of abdominal pain. For mild pain, meperidine hydrochloride (5-10 mg/kg, IV, IM, as needed), morphine (0.1-0.5 mg/kg, IV, SQ, or IM as needed) or butorphanol tartrate (0.1-1.0 mg/kg, SQ, every 1-6 hours) are suggested. With moderate to severe pain, fentanyl is given as a continuous rate infusion (CRI, 2-5 µg/kg/hour) or 4-10 µg/kg, SQ, IM, not to exceed 500 µg/dog. With severe pain the author increases the dose of fentanyl (5-10 µg/kg/hour) and may add either ketamine (0.2-0.4 mg/kg/hour, CRI) or lidocaine (5-30 µg/kg/min, CRI). The animal should be monitored for side effects, particularly respiratory depression. In some cases there is severe wind-up pain and alternative measures may be required to block the pain before traditional analgesics are effective. Spinal blocks and local analgesia should be considered in this case. The author has treated some patients having severe abdominal pain with some success using intrathoracic or intra-abdominal placement of local anesthesia. Either lidocaine (1.5 mg/kg) or bupivacaine (1.5 mg/kg) can be used. Bupivacaine has a longer duration of action and is preferred. A butterfly catheter or over-the needle-catheter is generally used and placed in the 8th mid-intercostal space. Following injections the dog is rolled around and placed on its back so the anesthesia will drain into the area of the vagal nerves.

David C. Twedt, DVM, Dip ACVIM
60th HI VMA Conf Procd, Nov 2013

Treating rhinitis in the cat

Chronic antibiotic therapy is variably helpful in controlling secondary bacterial rhinitis. Commonly used antibiotics include doxycycline, azithromycin, amoxicillin-clavulanic acid, clindamycin, and enrofloxacin. If the cat responds initially, treatment should be continued for at least 3-6 weeks, and intermittent drug therapy may be required. Topical decongestants are not effective in the presence of purulent nasal discharge and may actually worsen signs by drying out respiratory secretions. Improving hydration by steam inhalation or use of a humidifier or nebulizer may be helpful. The nares should be kept free of dried exudate to improve breathing and smell. Appetite must be monitored closely in affected cats. Because the contribution of viruses such as FHV-1 to disease state has not been determined, it is unclear whether anti-viral therapy would be of benefit in these cats. However a 1-month trial on ***lysine supplementation*** (500 mg, PO, BID) should be considered as therapy for FHV-1 related disease, particularly in cats with eosinophilic nasal inflammation. Further research is needed to determine whether specific antiviral therapy with a drug such as famciclovir might be warranted. Some cats respond to treatment with piroxicam (0.3 mg/kg, daily or every-other-day) to reduce inflammation. Cats should be monitored for changes in renal status and GI signs with sustained treatment. Additional therapy that can be considered is use of N-acetylcysteine orally. This agent breaks S-S bonds in mucus, reducing the viscid nature of the mucus to allow easier expulsion. It is also reported to have some antiinflammatory effects. An empiric dose of 200-300 mg/cat, PO, BID could be considered.

Lynelle Johnson DVM, MS, PhD, Dip ACVIM
18th NC Vet Conf Procd, Nov 2013

Pet store pets vs. breeder-obtained

Results of this study indicated that compared with dogs obtained as puppies from non-commercial breeders, dogs obtained as puppies from pet stores had significantly greater aggression toward human family members, unfamiliar people, and other dogs; fear of other dogs and nonsocial stimuli; separation-related problems; and urination and defecation problems in the home. On almost all behavioral variables measured, pet store dogs received less favorable scores than breeder-obtained dogs. Because the authors did not compare the two groups of dogs in this study with other sources of dogs, the results should not be interpreted as an endorsement of any particular source of dogs. On the basis of these findings combined with earlier findings regarding pet store-obtained dogs, until the causes of the unfavorable differences detected in this

group of dogs can be specifically identified and remedied, the authors ***cannot recommend that puppies be obtained from pet stores.***

Franklin D. McMillan, DVM, Dip ACVIM et al.
JAVMA, 242:10

Mouth gags in cats

Never use spring-loaded mouth gags in anesthetized cats. Because of cats' anatomy, this form of mouth gag occludes the maxillary artery, stopping blood flow to the brain. Cats can wake up from anesthesia with temporary or even permanent blindness.

Kevin Stepaniuk, BSc, DVM, Dip AVDC
Vet Med, Dec 2013

Medical uses of marijuana

This practitioner finds himself at the forefront of an effort to bring veterinary medicine into the national debate about medical marijuana. On the basis of his review of medical marijuana research, this clinician believes there's ample evidence to support using marijuana in veterinary patients as an alternative or adjunctive treatment for postoperative or chronic pain and also for palliative care. The author's position is the same as the AMA's. We need to investigate marijuana further to determine whether the case reports are true or whether there's a placebo effect at work. We also need to know what the risks are. Pet owners aren't waiting on the science, however. The author's survey shows they're feeding marijuana to pets to treat behavior-based disorders, including separation anxiety and noise phobia, as well as irritable bowel syndrome and feline immunodeficiency virus infection; for management of pain, nausea, and seizures; and as an appetite stimulate. Cannabis oil is also being used topically to treat tumors.

Dr. Douglas Kramer
JAVMA, 242:12

Cyclosporine use in the cat

Cyclosporine modified binds to specific intracellular receptors in T-lymphocytes and has been investigated for treating a number of skin diseases in veterinary dermatology. It is an immunosuppressive drug, so it is important to be sure the cat is FeLV-, FIV-, and toxoplasmosis-negative before starting this medication. It is metabolized via the liver and kidneys, so these organs should be evaluated as well. It appears to be tolerated well by the feline patient at a dose of 5 mg/kg/day or 25 mg/cat, q24h, PO. Give daily for 30 days, then reassess. Reduce to every other day *if* a good response is seen. Good response has been noted in eosinophilic plaques and granulomas, atopic dermatitis, and idiopathic facial dermatitis of Persian cats (anecdotal). Ideally, the drug should be given on an empty stomach (1 hr before or 2 hrs after a meal). The most common adverse effects are nausea, vomiting, and loss of appetite, but sometimes these effects can be alleviated if the medication is given with food.

Patricia White, DVM, MS, Dip ACVD
80th AAHA Conf Procd

Online resources

Across the pond, a collaborative initiative involving U.K. veterinary schools created the WikiVet project (http://en.wikivet.net/Veterinary_Education_Online). Its aim is to create an online knowledge base that covers the entire veterinary curriculum and provides a reliable reference source. The site requires a login, but registration is free for veterinary students, veterinary technicians, and veterinarians anywhere in the world. WikiVet is also available as an app. Speaking of apps VetPDA Calcs (https://itunes.apple.com/us/app/vetpda-calcs/id356519283?mt=8) was developed by the University of California-Davis School of Veterinary Medicine and contains 20 calculators for veterinary clinical use. Initially designed to make life easier for veterinary students during their clinical training, this app is useful for all veterinary professionals. For example, the app can calculate recommended dosages for over 40 anesthetic drugs, analyze blood gas values to aid interpretation, and assist with constant rate infusion calculations for drug administration. VetPDA Cales includes body surface area, drip rate, and conversion calculators. The $4.99 cost includes updates to the app, which is available online from the iTunes App Store.

JAVMA, Dec 2013

Cobalamin in the cat AND dog

It was the Ruaux et al. study that alerted the profession to the importance and impact of cobalamin supplementation (250 µg, SQ, once weekly) in cats with GI disease and marked hypocobalaminemia (≤100 ng/L). Since that seminal study cobalamin levels are being measured in cats with a wide variety of non-GI diseases and hypocobalaminemia may be a significant contributor to a number of conditions. In another study, hypocobalaminemia (≤200 ng/L) was identified as a significant risk factor for a negative outcome for dogs with chronic enteropathies, highlighting the importance of this simple substance in the canine population as well.

Craig B. Webb, PhD, DVM, Dip ACVIM
74th CO VMA Conf Procd

Comparing muscle sites for IM injections

The objective of this study was to compare onset time and quality of sedation achieved by IM injection of hydromorphone and dexmedetomidine into either the semimembranosus, cervical, gluteal, or lumbar muscle groups in dogs. When the combination of dexmedetomidine and hydromorphone was used to induce sedation in dogs, rapid and profound sedation was achieved with IM injection into the semimembranosus muscle. The semimembranosus site resulted in significantly higher sedation scores than did the other sites, and the cervi-

cal site resulted in significantly higher sedation scores than did the lumbar and gluteal sites. The semimembranosus and cervical sites resulted in significantly shorter times to onset of sedation than did the gluteal and lumbar sites.

Jennifer E. Carter, DVM, Dip ACVAA et al.
JAVMA, Dec 1, 2013

Treating vaginitis

If the condition is idiopathic, oral estrogen replacement therapy is often helpful in establishing normal mucosal integrity and eventual normalization of the vaginal vault. The condition is likely similar to postmenopausal vaginitis in women secondary to low estrogen concentrations. Women improve with vaginal estrogen application, which is difficult in dogs. Compounded oral diethylstilbestrol (DES) is advised; the dose is empiric and usually the same as that used for urinary incontinence due to sphincter incompetence. Several weeks of therapy with estrogen may be required before improvement is recognized. Side effects are uncommon; mild overdosage results in signs of proestrus (attraction to male dogs, vulvar swelling). Myelosuppression is highly unlikely if the dosage is conservative (a 60-lb dog would receive 1 mg once or twice a week).

Autumn Davidson, DVM, MS and Tomas Baker, MS
Vet Med, Dec 2013

Pyoderma: calculating correct dose of antibiotic

All factors considered, the cephalosporin class is safe, effective, encounters low levels of resistance, and have easy to administer options in oral and injectable form. Except for cases of methicillin resistant *Staphylococcus,* cephalosporins are the first choice for managing canine Staphylococcal pyoderma. Calculating appropriate dosage depends on the class of antibiotics. Antibiotics can be classified as "time-dependent" or "dose-dependent." In "time-dependent" classes, the length of time the tissue level remains above MIC is most critical; spiking the dose up higher does not result in more rapid or more effective killing, just more expense and more risk of side-effects. Penicillins and cephalosporins are "time-dependent." Half-life, dosing interval and period above MIC are most important. Therefore whenever possible select the cephalosporin with the longest half-life. When calculating the dosage from a range, always round up to the next most convenient dose rather than rounding down. For example, if the dosage range for cefpodoxime is 5.0-10.0 mg/kg, for a patient weighing 49 lbs (22.3 kg) the lowest acceptable dose is 112 mg; always round up to 150 mg (1 1/2 100 mg tablets) or 200 mg (one 200 mg tablet), never round down to 100 mg.

John C. Angus, DVM, Dip ACVD
DC Acad Vet Med Conf Procd, 04:13

Signs of Malassezia dermatitis

Malassezia dermatitis is common in dogs. It occurs in dogs of any age, sex, and breed. There are some breed predispositions, which include Basset Hound, Dachshund, Cocker Spaniel, West Highland White Terrier, Shih Tzu, and English Terrier. Pruritus is a major sign and can be so severe as to ***mimic seizures,*** especially when the Malassezia affects the lip folds. Typical body locations include the ears, lip folds, intertriginous regions, ventral neck, axilla, perianal, and interdigital. Some dogs will have generalized disease. The lesions are erythematous, greasy or waxy, scaly, and crusty. Rarely, one will find multifocal areas of papules and dry scale, that may be misdiagnosed as a superficial bacterial folliculitis. Chronic cases may have marked lichenification and hyperpigmentation. Malassezia paronychia produces red-brown discoloration of the claw folds and nails. Cats may have Malassezia dermatitis manifested by black and waxy otitis externa, chin acne, paronychia and a generalized erythematous scaly dermatitis and pruritus. As in dogs, the Malassezia dermatitis is usually pruritic and secondary to an underlying disease. It has been reported in several cats with other underlying systemic disease (FIV) and neoplasia (thymoma, pancreatic adenocarcinoma).

Lynette K. Cole, DVM, MS, Dip ACVD
MI Vet Conf Procd, 01:12

The hospitalized cat

As cats age, they tolerate less time in the clinic. Siamese cats are especially prone to depression. Three days is about as long as a cat can stand the indignities of hospitalization, even with daily visits from his/her person. Because cats "see" the world in overlapping clouds of smells, we must provide familiar smells and aim to reduce foreign, medicinal smells wherever possible. Client-worn shirts are helpful in their cages/beds. Because their sense of hearing is tuned more finely than ours, we must keep as quiet and reassuring environment as possible. They should not be exposed to the sounds of predators, namely barking dogs. Certain induction agents enhance their sense of hearing, e.g., ketamine, so a safe sounding environment should be achieved. Changing diet while hospitalized is likely to result in inappetence and the development of an aversion, thus if a change in diet is required therapeutically, try to make that change at home, in a gradual fashion.

Margie Scherk DVM, Dip ABVP
WA St VMA Conf Procd, 10:11

NEXT MONTH--Mistakes in treating rodenticide toxicosis