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Effect of neutering on disease

Neutering and the age at which a dog is neutered may affect the animal's risk for developing certain cancers and joint diseases. This study (focused on Golden Retrievers) discovered significantly higher incidents of hip dysplasia, cranial cruciate ligament tears, lymphosarcomas, hemangiosarcomas, and mast cell tumors among neutered dogs, compared with sexually intact dogs. The study results indicate that dog owners and service dog trainers should carefully consider when to have their male or female dogs neutered. In another study of the relationship between life expectancy and ovary removal in Rottweilers, it was found Rottweilers spayed after they were 6 years old were 4.6 times as likely to reach 13 years of age as were Rottweilers spayed at a younger age. The disease rates for all five diseases were significantly higher in both males and females that were neutered either early or late, compared with that of sexually intact dogs. Specifically, early neutering was associated with an increase in the occurrence of hip dysplasia, cranial cruciate ligament tear, and lymphosarcoma in males and in the occurrence of cranial cruciate ligament tear in females. Late neutering was associated with the subsequent occurrence of mast cell tumors and hemangiosarcoma in females. Furthermore, the new ***study showed a 100 percent increase in the incidence of hip dysplasia among early-neutered males.*** The study is available at http://dx.plos.org/10.1371/journal.pone.0055937.

Dr. Benjamin Hart
JAVMA, Apr 1, 2013

Cardiac cachexia

Cardiac cachexia is common in patients with congestive heart failure (CHF) and has deleterious effects on strength, immune function, and survival. Clinicians should monitor not only body weight and body condition score at each visit, but also muscle condition score, in order to be able to detect muscle loss at its earliest stages. The inflammatory cytokines (e.g., tumor necrosis factor, interleukin-1) appear to be the primary mediators of cachexia. These cytokines directly cause anorexia, increase energy requirements, and loss of lean body mass. Therefore, a logical approach to treating patients would be to block these cytokines. One approach to reducing inflammatory cytokines is ***supplementation of fish oil,*** which is high in omega-3 fatty acids. Fish oil decreases cachexia and in some animals with CHF-induced anorexia, fish oil supplementation improves food intake. In contrast to the healthy dog, cat, or person in which obesity can have many negative effects, obesity may actually be associated with a protective effect once CHF is present - this is known as the obesity paradox. The benefit of obesity in CHF is likely due more to a *lack* of cachexia, rather than to the obesity per se, given the adverse effects associated with cachexia. Weight loss in animals with CHF will result in further loss of lean body mass, whether or not the animal is normal weight, thin, or obese. Therefore, while weight loss programs may still provide benefits in very obese animals with CHF (i.e., 9/9 body condition score), they must be very carefully planned and monitored.

Lisa M. Freeman, DVM, PhD, Dip ACVN
36th Royal Canin & OSU Symp Procd, 10:12

INSIDE THIS ISSUE

Food stamps for pets

The Pet Food Stamps program, a New York-based nonprofit, has expanded its reach to become nationwide. According to its website, www.petfoodstamps.org, the program was created to fill the void in the United States' Supplemental Nutrition Assistance Program, (SNAP) formerly food stamps, which excludes the purchase of pet food and pet supplies. The program aims to provide "food stamps" for pets of low-income families and for SNAP recipients who otherwise could not afford to feed their pets. Once need and income are verified, pet owners receive free monthly home delivery of food supplies, based on the pets' needs, from online pet food retailer Pet Food Direct for a six-month period.

JAVMA, Apr 15, 2013

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

CoLyte for constipated cats

Constipation and obstipation are common problems in cats, and affected cats can be quite ill. Therapy starts with removal of the hardened feces and providing support for the cat. This study evaluated PEG 3350 (CoLyte) infusions as the predominant therapy, resulting in the resolution of constipation in 9 cats. All patients received IV fluids and various supportive care measures. One cat also received a 5 ml/kg warm water enema 12 hours prior to administration, and one received a single warm water enema concurrent with treatment. PEG 3350 was administered via nasoesophageal tube, 6 to 10 ml/kg/H. Cats defecated from 5 to 24 hours after administration (median time 8 hours). Side effects were limited to vomiting in one cat; however, this cat had been vomiting prior to presentation. PEG 3350 solution appears to be an effective therapy for the treatment of constipated/impacted cats.

A.P. Carr and M.C. Gaunt
NAVC Clin Brf, 8:9

Fluoxetine for feline urine marking

Cats can develop separation anxiety also. The signs are often far less dramatic than in dogs, but one key sign is urine marking *only in* the owner's absence. In this case, and for urine marking in general, fluoxetine is super effective. A study by Ben Hart showed that fluoxetine (and clomipramine) produced a near 90% reduction in urine marking in most cats and the effect was sustained over the eight months of the study. Certainly the introduction of fluoxetine as a treatment for this otherwise refractory condition has meant the urine marking is no longer the harbinger of surrender and/or death knell for cats that it once was.

Nicholas Dodman, BVMS, Dip ACVB
Vet Pract News, Apr 2013

Diarrhea in the cat

As an alternative to lactulose in cats with chronic constipation or hepatic encephalopathy, ***try milk or cream.*** Lactulose is effective because there is no lactulase produced, therefore the disaccharide stimulates an osmotic diarrhea. Cats that are lactose intolerant (most of them) will have a similar effect with milk. Cats frequently hate the taste of lactulose but most cats love milk. Titrate the dose to get a soft stool.

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

Shock doses of steroids

Traditionally, "shock doses" of steroids have been listed in emergency books (e.g., dexamethasone sodium phosphate [DexSP] 4-6 mg/kg). However, clinicalists have moved away from giving steroids with trauma because of potential deleterious effects (including gastric ulceration in a poorly perfused "shock gut" in the dog, exacerbation of hyperglycemia, and delayed wound healing). More recently, we have moved to different doses of DexSP. Anti-inflammatory doses of DexSP are generally considered 0.1 mg/kg, whereas immunosuppressive doses are as low as 0.25 mg/kg, IV, q12-24h. For that reason, the 4-6 mg/kg dose for shock is no longer indicated. Remember that DexSP is approximately 8-15 times stronger than prednisone, and one is unlikely to need 40 mg/kg of prednisone in trauma cases.

Justine A. Lee, DVM, Dip ACVECC
18th Int VECC Conf Procd

GI disease as cause of behavior disorder

Two studies have identified gastrointestinal problems in dogs exhibiting excessive licking of surfaces and fly biting behavior. Once the underlying GI problems were treated, the compulsive behavior in these dogs abated significantly. These findings underscore the need to always evaluate a patient with behavior problems for medical conditions before concluding the issue is strictly behavioral in nature. Specifically for animals exhibiting oral repetitive behaviors, evaluate the GI system. Examples of repetitive behaviors observed in dogs include flank sucking, fly biting, light chasing, spinning, tail chasing, hind end checking, self licking, and licking of surfaces. Depending on the diagnosis, therapy may include a hypoallergenic diet, antibiotics, corticosteroids, antiemetics, antacids, and anthelmintic drugs. As when dealing with any set of signs in a veterinary patient, establishing a list of differential diagnoses and then allowing diagnostic tests to sort out the true etiology is always warranted before beginning therapy. However, if a thorough work-up is not possible, nonspecific treatment with antacid therapy and a hypoallergenic diet may be beneficial.

Kelly Ballantyne, DVM and John Ciribassi, DVM, Dip ACVB
Vet Med, Apr 2013

Doxycycline substitute, heartworm treatment

There has been a shortage of doxycycline. Until manufacturers begin producing and distributing more doxycycline, veterinarians might be wondering what they can use. There are no data supporting the use of other antibiotics for the treatment of heartworm, but experts have combed the literature for a solution. They believe minocycline, which is in the same antibiotic class as doxycycline and has been used to treat canine rickettsial infections, may be the solution because *Wolbachia* is a rickettsial organism. In addition, minocycline has been shown to be effective in reducing *Wolbachia* infection in human onchocerciasis, a human nematode infection that causes river blindness. So, it seems to be a good drug. In another report, it is stated that pharmacokinetic studies following oral administration of minocycline are limited, but half-life and recommended dosing intervals are anticipated to be similar to those for doxycycline in dogs. Although minocycline is less

likely to bind to food, the oral bioavailability of minocycline may be less than that for doxycycline, leading to higher recommended oral dosages (4.5 mg/lb, q12h, or 9.0 mg/lb, q24h).

Charles Thomas Nelson, DVM and Dawn Merton Boothe, DVM
Vet Pract News, May 2013

Skunk odor removal formula

1 quart fresh 3% hydrogen peroxide; 1/4 cup baking soda (sodium bicarbonate); and 1-2 tsp of liquid dishwashing detergent. For large dogs, add one quart of tepid water to ensure complete coverage. Mix the above ingredients together. Bathe the animal outdoors. Apply the formula to the pet, working deeply into the fur, and allow it to set for 5 minutes. Rinse with copious amount of water after 5 minutes. Repeat if necessary. The mixture must be used promptly and will not work if stored for any length of time. Do not store in a closed container. The container could break as the peroxide releases oxygen. The pet's fur (as well as clothing, towels, and carpeting) may be bleached by the formula.

P. Krebaum
Vet Med, Apr 2013

Decontamination procedures

Dogs: Owners should offer dogs bread first; emesis may be more productive with a full stomach. In toxicity cases involving zinc phosphide or aluminum phosphide, no food should be given. Food stimulates production of stomach acid, which causes release of toxic phosphine gas. Walking the pet or allowing it to move around may help stimulate vomiting. Hydrogen peroxide 3% at 1 ml/lb, PO should be administered up to 45 ml. Further administration is likely of little benefit and can cause injury to the esophageal and gastric mucosa. Cats: Emesis is only recommended at home in extenuating circumstances. Hydrogen peroxide is effective in 30% of cases, and adverse effects (e.g., severe, bloody vomiting) can occur.

Valentina Merola, MS, DVM, Dip ABVT
NAVC Clin Brf, Apr 2013

Restraint of the cat

Remember that when you reach in to a kennel to bring out a patient, you are blocking their light and appear as a looming frightening stranger. ***Approach the opening from the side*** so that some light still enters. Do not block any chance for escape; if the possibility to have some control over her environment and situation exists, she will be much more cooperative. Because cats rely on flight and fight for survival and are not reliant on others, when it comes to restraint, LESS IS MORE! Cats inherently resist intimate handling and restraint. By confining them, we take away their sense of control and cause them to react. How easy it is to condition negative emotional responses....cat bags, masks, gloves all carry the scents of previous similarly terrified patients plus other sundry smells (anal gland secretion, pus, blood, halitosis, etc.) Use of a towel is all that is needed to burrito a cat in for protection of the handler. Remember, a cat would rather flee than attack.

Margie Scherk DVM, DABVP
WA St VMA Conf Procd

How long for a food trial?

One will find variable recommendations regarding the length of time necessary to see improvement once the patient is placed on the hypoallergenic diet, with some recommending a 12 week diet trial. In this authors experience it is rare for a food allergic patient to not show measurable improvement within 4-6 weeks, and 6 weeks is the author's normal preferred length. Requiring a client and patient to struggle on for 12 weeks without seeing improvement in clinical signs can cause many owners to lose faith with the entire process, leading to abandonment of the food trial and possibly seeking out a different opinion. It may require more than 6 weeks for the maximum improvement to be seen, but at least the patient is improving which provides encouragement to continue the trial.

Thomas P. Lewis II, DVM, Dip ACVD
CVC, San Diego Procd, 11:10

Perianal fistula treatment with cyclosporine

Successful treatment of perianal fistula (PAF) with cyclosporine (CsA) has been reported in several studies in which the effective dosage of CsA ranged from 2 mg/kg, PO, q24h to 10 mg/kg, PO, q12h. Concomitant administration of ketoconazole to reduce CsA dosage can minimize cost with similar efficacy. Current guidelines recommend treating PAF with CsA (5-7.5 mg/kg, PO, q24h) and ketoconazole (5-10 mg/kg, PO, q24h). Once lesions resolve, PAF can be controlled via continued q24h to q48h administration: few cases resolve completely, and daily or alternate daily administration at lower-than-induction dosages of both medications may be required to prevent relapse. Tacrolimus, a topical macrolide that can be used in conjunction with CsA, has also demonstrated efficacy in the treatment and management of PAF. Unlike treatment of atopy and sebaceous adenitis, when treating PAF, serum trough level measurement of CsA can help determine dosage requirements; the measurement should remain between 100 and 300 ng/ml for maintenance (depending on the reference range for the laboratory).

Alexander Werner, DVM, Dip ACVD
NAVC Clin Brf, 11:1, 2013

Microchips and MRI

Given that microchips are being used more commonly for permanent identification of animals and that magnetic resonanceimaging is being used more commonly for diagnostic imaging, it is important to examine whether MRI interferes with the functionality of microchips. In a study involving 53 dogs and cats in which

a microchip had been implanted and that were scheduledto undergo MRI for various medical conditions, the microchip number was accurately read in all 53 patients following the MRI procedure, suggesting that ***MRI did not interfere*** with the functionality of these microchips. Findings suggest that practitioners can safely recommend MRI for patients in which a microchip has been implanted.

Katherine A. Haifley, DVM and Silke Hecht, Dr med vet
JAVMA, 240:5

Keeping IV fluids warm

Anesthetized patients who receive IV fluids are often doomed to become hypothermic. Think about it: We administer fluids at, say, 70 degrees to a body that is about 100 degrees. This 30-degree difference is very significant in small patients or with large volumes of fluids. An easy way to warm up the fluids is to use a commercial fluid warmer, or a dedicated warm IV bag. The IV line is then coiled around the bag. Many people know this trick, but the author often sees the bag being placed far away from the IV catheter, in a convenient location. This defeats the purpose because fluids have "time" to cool down before they reach the patient. So strive to place the IV bag close to the IV catheter.

Phil Zeltzman, DVM, Dip ACVS
Vet Pract News, 25:1, 2013

Determining causes of pruritus

Atopy and food allergy look identical in the exam room, but two areas to look for atopy are the anterior flexural surface of elbow and the posterior carpus between pad and accessory carpal pad. Flea allergy tends to affect the back half of the dog worse, with classic signs of alopecia, erythema, papular dermatitis at dorsal tail head. Sarcoptes is most commonly associated with the pinna, elbows, flank; but not always. Never rule out Sarcoptes based on PE. Any dog that itches can be a sarcoptes dog. Cheyletiella usually has dry scale on the dorsum. Check for a pinnal-pedal reflex by rapidly scratching the leading edge of the pinna with a finger nail. If the ipsilateral leg starts stratching, then positive. Positive in majority of sarcoptes dogs, while negative with most other pruritic diseases. A rough tool, but if positive a parasite treatment trial is always indicated. Don't rule out Sarcoptes based on negative pinnal-pedal reflex. Check for concurrent otitis? As a general rule, if no infection to affect signs, atopy affects the pinna and opening most, while food generally affects the horizontal and vertical canal more. If infection present, no help. Crusting on edge of pinna is strongly suggestive of Sarcoptes.

John C. Angus, DVM, Dip ACVD
DC Acad Vet Med-Derm Procd, April, 2013

Antibiotic induced enterocolitis in the hamster

The etiology is *Clostridium difficile.* The pathogenesis is usually associated with antibiotic administration (lincomycin, clindamycin, ampicillin, vancomycin, erythromycin, cephalosporins, gentamicin and penicillin) but may also be induced by stress. This leads to an overgrowth of *C. difficile* in the GI tract. Other clinical signs include profuse diarrhea (or variations) and high mortality within several days of antibiotic administration. Diagnosis is by a history of antibiotic use or identification of the organism. USE ANTIBIOTICS CAUTIOUSLY IN HAMSTERS INCLUDING TOPICAL ANTIBIOTICS (maybe absorbed cutaneously or eaten by the animal). Oral beta lactams (penicillins) are contraindicated in the hamster.

Anna L. Hampton, DVM
Mich Vet Conf Procd, 01:11

Anesthesia of the geriatric patient

Geriatric patients should be pre-oxygenated for 2-5 minutes before anesthetic administration to help prevent hypoxia during the induction of anesthesia. The patient should be intubated when a general anesthetic is used to provide a patent airway. Close monitoring of cardiovascular and respiratory parameters is essential during anesthesia and, if necessary, the patient's ventilation should be assisted or controlled. Ideally intraoperative monitoring should include blood pressure, pulse oximetry, end tidal carbon dioxide, ECG, and body temperature. In addition, adequate fluid replacement should be given, using a ***glucose enriched fluid,*** to prevent renal crisis and to help maintain a proper homodynamic state. This author uses 5% dextrose/LRS at a rate of 10-20 ml/kg/hr, depending on the status of the cardiovascular and renal system. If the patient has heart issues, the lower rate is used. The 5% dextrose/LRS has an osmotic diuresing effect to help maintain kidney function. Intraoperative monitoring techniques should be continued into the post-operative period or until the geriatric animal has returned to its pre-anesthetized state.

Robert Paddleford, DVM, Dip ACVA
So Cal VMA Pulse, 10:11

Opioid analgesia in the cat

Opioids can be safely administered to cats to provide analgesia. Hydromorphone or oxymorphone, 0.05 mg/kg, titrated slowly IV, can be administered for analgesia; however, side effects such as hyperexcitability or agitation may occur. It has been shown that the onset of mydriasis following administration of opioids ***correlates with adequate analgesia in cats***; continual dosing after achieving mydriasis may result in adverse side effects such as dysphoria and agitation.

Jane Quandt, DVM, MS, Dip ACVA
ACVIM For Procd, 06:11