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

"Pearls" of Veterinary Medicine

THE CAPSULE REPORT® FOR VETERINARIANS

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Volume 34, Number 1 April 2015

Cerenia for pruritus

Maropitant citrate is an NK-1 neurotoxin receptor antagonist that is used for controlling vomiting in dogs and cats. This drug blocks the activation of substance P, which has recently been shown to be an important neuropeptide linked to the itch-scratch cycle. Maropitant significantly decreased pruritus in people with chronic refractory pruritus. The recommended dose of maropitant is 1 mg/kg/daily, for 5 days, with 2 days off each week. The days off are needed to re-establish concentrations of substance P in the CMS to avoid Parkinson-like tremors.

Ana Rios, LVM
N Amer Vet Conf, 01:13

A novel approach for preventing food allergy

Some researchers have demonstrated that allergen-specific IgE levels increase to food antigens being fed in allergy-prone dogs immunostimulated by prophylactic vaccines for at least 3 weeks following vaccination and subside to normal pre-vaccination levels in 8-9 weeks. Others have proposed that human vaccines induce the expression of IgE mRNA through the activation of an antiviral protein kinase. Based on the potential for sensitization to foods being ingested at the time of booster vaccinations during puppyhood and kittenhood, this author typically advises that a "***sacrificial protein***" be fed during this stage of a dog or cat's life, especially in breeds with a predisposition toward allergies. Once the pet reaches adulthood and vaccines occur annually or less frequently, then switch to a different protein source; for example, start with a lamb-based diet in puppy/kittenhood, then move to a chicken-based diet into adulthood. Avoid keeping the pet on the same protein source through its entire life to prevent development of food allergies.

Anthony A. Yu, DVM, MS, DACVD
N Amer Vet Conf, 01:13

Early use of NSAIDs

Often, the clinical approach to a young or middle-aged dog with OA-associated pain is to avoid the use of NSAIDs. The rationale often quoted for this approach is that the practitioner wants to "save the use of NSAIDs for later, and not have a dog on NSAIDs for the whole of its life." This is a ***flawed and rather naive approach***. If pain is not alleviated, adverse effects on the musculoskeletal system occur (muscle wasting; decreased muscle, ligament, and tendon health,) leading to decreased joint support, and increased pain—and so the downward cycle continues. Thus, *predictable pain relief prevents the early deterioration of the musculoskeletal system*. However, NSAIDs (which are providing predictable pain relief) usually do not have to be used for the rest of the dog's life. Use of NSAIDs that extends for several months allows increased exercise and weight control or reduction, and these two factors can result in significant and sufficient pain relief to allow the NSAIDs to be discontinued.

B. Duncan Lascelles, BSc, BVSC, PhD,
North Amer Vet Conf, 01:14

Valueable Information Inside

Combo sedation for cat

The 3 way combination of a sedative/analgesic (Dexdomitor), an opioid analgesic (butorphanol) and a dissociative anesthetic (ketamine) has been affectionately named Kitty Magic. For a non-fractious 10 pound cat (scale weight) the starting dosages are 0.1 mls of each of the following drugs; Dexdomitor 0.5 mg/ml, Butorphanol 10 mg/ml and Ketamine 100 mg/ml. Dosages should be adjusted based on an actual accurate body weight. ***Low Dose:*** Kitty Magic: Administer according to ACTUAL BODY WEIGHT 0.1 ml/10 pounds of 0.5 mg/ml Dexdomitor; 0.1 ml/10 pounds of 10 mg/ml Butorphanol; and 0.1 ml/10 pounds of 100 mg/ml Ketamine. This dose will generally produce only mild sedation, analgesia, and limited immobility. Approximately 50% of these cats will not appear to be very sedate but will be easier to handle. Cats will be less aware of minor painful procedures such as catheter placement and examination. The amount of induction and maintenance drugs will be reduced. Intubation prior to additional anesthetics is not generally possible.

David B. Brunson, DVM, MS, DACVAA
Mich Vet Conf Feb 2015

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Proven method for treating aural hematomas

One method of treating aural hematomas is to simply ***allowing the hematoma to resorb on its own***. In this author's first 10 years of practice, aural hematomas were treated surgically. However, some owners declined surgery because of cost, and in those cases, the hematoma resolved without intervention within 2 months. The author has not treated an aural hematoma surgically in 20 years but does treat any underlying ear disease that might be present. In the author's experience, surgical intervention is not indicated for most aural hematomas. However, if there is no improvement after 2-3 months, inserting drains would be considered.

Rocky Deutsch, DVM
JAVMA, Mar 1, 2015

Topical therapy for otitis

Though in conflict with label instructions on most commercial otic products, the author recommends a ***minimum treatment time (with topical therapy) of 30 days***. This extended treatment time is necessary to completely clear the infection. Shorter treatment times will often decrease the severity of infection and result in clinical improvement without completely eliminating the infectious agents. The dose (Volume) recommendations follow. Small dogs (<15 kg) - 0.4-0.5 mL; Medium dogs (15-20 kg) - 0.7-0.8 mL; Large dogs (>20 kg) - 1.0 mL The volume of medication applied into the ear during treatment appears to be *critical*. The use of some type of dosing syringes to accurately measure otic medications is recommended. Failure to apply sufficient quantities to penetrate to these areas, in the authors' opinion, is a major cause of treatment failure. Volumes used to achieve adequate penetration **down** the canal are based on studies performed by the author.

James O. Noxon, DVM, Dip ACVIM
N Amer Vet Conf, 01:13

Local anesthetics, misconceptions

Combining lidocaine and bupivacaine is controversial. In theory, combining them would reduce the time of onset and result in long-duration analgesia. However, research does not support this theory. Combining lidocaine and bupivacaine 1) increases the time for onset of action compared with lidocaine alone, 2) dramatically reduces the duration of action compared to bupivacaine alone, and 3) produces additive toxicity. The use of morphine for epidural analgesia does not block sensation at the surgical site nor does it interfere with motor function of the pelvic limbs. It does however contribute to analgesia through the opioid receptors in the spinal cord. Onset of action at these receptors is delayed requiring around an hour for the benefits to be detected. When used for specific nerve blocks or epidural administration, lidocaine and bupivacaine are appropriate and no more toxic in cats than in dogs. In other words, it is equally acceptable to use lidocaine or bupivacaine for nerve blocks in cats.

Nancy Brock, DVM, DACVAA
SW Vet Sym, 09:13

Juvenile vulva/vaginitis

Juvenile Vulva - very small vulva, usually recessed so surrounded by skin folds. Generally seen in juvenile bitches prior to 1st heat cycle or older bitches with recurrent UTI problems. Note in record and watch to see if it corrects prior to spaying. If still present at 6 months, allow bitch to cycle 1-2x, then spay. NEVER SPAY UNTIL AFTER HEAT CYCLE OR WILL REQUIRE EPISIOPLASTY!!!!! Episioplasty is treatment of choice if heat cycle does not resolve problem. Juvenile Vaginitis - occurs in bitches prior to their 1st heat cycle; mild to copious amounts of discharge. Can be mucoid to purulent. Cytology will show polymorphonuclear leukocytes +/- bacteria. Not always irritating to bitch, but owners do notice. DO NOT TREAT WITH ANTIBIOTICS!!!! Conservative treatment is best (84% resolve). Let bitches go through one heat cycle to correct conformation issues and allow estrogen's effect on the vaginal epithelium.

Julie T. Cecere, DVM,MS, DACT
VA Vet Conf, Feb 2015

Sources of ethylene glycol

Ethylene glycol is most commonly thought of as automotive radiator antifreeze, but ***ethylene glycol is also present in high concentrations*** in many brake fluids and aircraft deicers. In addition, ethylene glycol is often used in condensers, heat exchangers, home solar units and portable basketball goal post bases. Ethylene glycol may also be used to winterize toilets in recreational vehicles and summer homes in colder latitudes. Ethylene glycol is commonly present as a component in household paints, but it is rarely present in concentrations above 10%. Inks, ink pads, polishes, finger moistening compounds (e.g. Tacky Finger), and other stationery supplies may contain high levels of ethylene glycol, but have small volumes.

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

Analgesic dose of gabapentin

The pharmacokinetics in dogs indicates that it has a short half-life thus dosing should probably be TID. A dose of 10-20 mg/kg, every 8 hours maintains a targeted plasma concentration but it is questionable if this dosage is necessary for its analgesic effects. Dosages much lower and less frequently have provided relief in some patients. The ***author recommends 2-5 mg/kg, BID to TID*** to start and then gradually increasing the dose and/or frequency to effect to minimize the side effect of sedation.

David D. Martin, DVM, DACVAA
N Amer Vet Conf, Vol 29, Jan 2015

Changing views in kidney diets

A changing view of the best diet is a key development in the treatment of chronic kidney insufficiency. In the past, the approach was a low-protein diet. Now

the practice is to put such a cat on a high-protein diet. There are several reasons for this switch in thinking, particularly to keep the cat from losing too much weight and muscle. Muscle wasting is a common problem in senior cats. Their spines and hips become very prominent because they have lost muscle mass. This occurs due to protein deprivation. The low-protein diet really hasn't done the good that we thought it was doing, in fact its benefits to kidney function are minimal to nil and many older cats on a low-protein diet will begin to lose muscle and get thin. Despite this change in thinking, many manufacturers continue to make low-protein diets that are officially labeled for kidney disease. The author doesn't even use those official kidney diets anymore. Instead he recommends foods made for diabetic patients because they are low in carbohydrates, which is in excess amounts in many cat foods, and the food makers have replaced the carbs with mostly proteins. In a very thin cat, the ***creatinine will not be a true reflection of the kidney function***. On the other hand the BUN measurement is falsely elevated in a cat that's dehydrated. Therefore, you have to consider body condition and hydration status when interpreting creatinine and BUN values. High protein diets will elevate the BUN measurement, but that doesn't mean the kidney function is down. It just means the cat's on a high-protein diet.

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

Antibiotics for the neonate

In general, beta-lactam antimicrobials are considered the safest choices. If possible, avoid chloramphenicol, aminoglycosides, tetracyclines, and drugs like clindamycin that undergo enterohepatic cycling. Metronidazole can be used, but dose interval should be prolonged. Finally, quinolones have been shown to result in cartilage lesions in puppies and should be used only when the benefit outweighs the risk and ideally avoided altogether in growing, large breed dogs. Commonly recommended dosages include: 1) Amoxicillin – 6-20 mg/kg, PO, q12h. 2) Amoxicillin + clavulanic acid – 12.5-25 mg/kg, PO, q12h. 3) Ampicillin – 22 mg/kg, IV, q8h. 4) Ampicillin/Sulbactam – 22 mg/kg, IV, q8h. 4) Trimeth/sulfa – 30 mg/kg, q24h. Intramuscular routes should be avoided in neonates due to variable absorption secondary to small muscle size and reduced vascularity. Subcutaneous administration of drugs gives variable absorption rates due to lack of fat as a percentage of body weight.

Justine A. Lee, DVM, DACVECC, and Leah A. Cohn, DVM, PhD
N Amer Vet Conf, 01:14

Kissing lesion of the dog's mouth

Chronic ulcerative paradental stomatitis (CUPS), also called contact mucositis, contact mucositis with ulceration, and kissing lesions, affects the paradental mucosal tissues that lie next to the teeth. The oral mucosa, palatal mucosa, lining of the buccal pouch and epithelial lining of the tongue are most commonly affected. Most affected patients are in so much pain they will not allow an oral examination. Lab tests should be performed before medical treatment, which involves the following. Affected patients are extremely sensitive to plaque, so initial care involves scaling, above and below the gum line. Antibiotics approved for dental infections are indicated. Antibiotics approved for dental infections are indicated to help treat severe presentations. Pentoxifylline (patient <7 kg: 100 mg, TID.; 7-16 kg: 200 mg, TID.; >16 kg: 400 mg, TID can be prescribed to decrease inflammation. Niacinamide with equal dosages of tetracycline (patient <20 kg: 250 mg, TID; >20 kg: 500 mg, TID) may also be helpful. Pain relief medication is also indicated. Pulsed antibiotic therapy (antimicrobials administered the first five days of each month) is not recommended.

Jan Bellows, DVM, DAVDC, DABVP, FAVD
DVM News Mag, Feb 2015

Checking where feeding tube is

A quick way to assess placement of a feeding tube is to attach the tube end to an ***airway gas analyzer*** (e.g., capnograph). When the tube end is located in the esophagus or stomach, there is no capnographic waveform, respiratory rate, or end-tidal CO2 detectable by the machine, which sets off its apnea alarm. End-tidal CO2 and respiratory rate are both measureable, and a capnographic wave form is elicited if the tube end is in the trachea, nasopharynx, or nasal cavity.

Kathleen Aicher, DVM et al.
NAVC Clin Brf, 11:10

Omega 6 oils for dermatoses

The following conditions may be managed with 1/2 to 2 tablespoons of one of the omega 6 oils such as sunflower, safflower, corn, soy or canola added to the diet, or with one of the commercial supplements available from several companies. Concurrent use of moisturizing topicals is also indicated. Poor skin and hair coat with dry scaling: a) Some types of primary seborrhea; b) Incomplete low fat or fat deficient diets; c) Excessive swimming or bathing; d) Cold dry environments; e) Endocrine dermatoses such as hypothyroidism. One unpublished study demonstrated that an oil consisting of 55% ALA (omega 3) and 15% LA (omega 6) administered to dogs over 56 days resulted in significantly improved hair coat quality and reduced trans epidermal water loss (a measure of improved barrier function). A commercial omega 6/omega 3 combination product may be a better alternative to an omega 6 oil alone since the omega 3 component may help support a normal inflammatory response.

Kenneth W. Kwochka, DVM, DACVD
Music City Vet Conf, 03:14

Ingestion of laundry detergent pods

A new danger seems to be presenting itself. It was first noticed that young children were developing serious respiratory issues after biting into the highly concentrated, prepackaged laundry detergent pods. Not surprisingly, Pet Poison Helpline has noticed some severe

clinical signs in dogs and cats exposed to these pods as well. Of the cases reported to the Pet Poison Helpline over the past two years, 72 percent of pets developed clinical signs, including vomiting, cough, lethargy, and dyspnea or wheezing. So why do pets exposed to laundry pods experience more severe reactions than pets that simply lick the product off the floor or their fur? The reason is thought to be the way the product is formulated in the pod. When a pet bites into a pod, the product is both highly concentrated and under pressure from the bite. Therefore when the pod is puntured, the detergents are forcefully expelled and may be easily aspirated or swallowed, often in large amounts. Dishwasher pods also pose a risk to pets, with a greater potential for corrosive injury. When these exposures occur, it is important for the pet owner to dilute the exposed site as much as possible—to rinse the mouth, skin or eyes until the slick, "soapy" feel is gone. There is no antidote for laundry pod exposure, so any persistent clinical signs should be treated with symptomatic and supportive care.

Dr. Heather Handley
DVM News Mag, 46:1

Juvenile pubic symphysiodesis

It is relatively clear that greater ventroversion is achieved when the procedure is performed earlier rather than later and it should be performed by 15 weeks of age and no later than 18 weeks of age. In the author's opinion, every effort should be made to have JPS performed by 15 and no later than 16 weeks of age in a large breed puppy. Performing JPS at 18 weeks of age may be beneficial in giant breed puppies because they will continue to grow for a longer period of time. Few complications have been reported with JPS and such complications include seroma and dermal burn. Seromas tend to be self-resolving and of no major significance. Dermal burns likely occur because unlike typical procedures in which electrosurgery is used very briefly (for a second at a time) to provide hemostasis, the electrosurgery can be used for up to 30 seconds at a time. That energy travels through the animal and to the grounding plate. If the point of contact between the animal and the grounding plate is small all that energy is focused in that small area and this can result in a burn. This problem is typically prevented by shaving an adequately sized area and making sure that a large area of skin is actually in contact with the grounding pad or plate. In so doing the energy applied to the animal exits the animal over a large area and is not all concentrated at one point that suffers damage.

Samuel Patrick Franklin, MS, DVM, PhD, DACVS, DACVSMR
N Amer Vet Conf, Vol 29, Jan 2015

Pruritus in Guinea Pigs

The most common cause of pruritus in guinea pigs is sarcoptiform mange, caused by the mite *Trixacarus caviae* that burrows into the skin, creating epidermal tunnels and eliciting a cell-mediated immune response. The mite's life cycle is 10-14 days. Most transmission is direct from carrier animals. Lesions are typically on the head, shoulders, dorsum, or flanks but can become generalized. Lichenification can occur with chronic infection. Secondary bacterial infections are common, and seizures have been reported. Affected guinea pigs become thin and lethargic; the disease can be fatal. Diagnosis is made via skin scrapings and visualization of eggs and mites. The mites resemble *Sarcoptes scabiei* var canis; however, *T caviae* mites are smaller and have longer hair-like dorsal setae. There are no licensed antiacaricidal drugs for guinea pigs. In this study, 17 mixed-breed guinea pigs with active mite infestations received either topical selamectin (15 mg/kg) as a single dose or ivermectin (400 µg/kg), SQ, q10d, for 4 injections. Pruritus resolved in 10 days for all animals; all were microscopically mite-free on day 30 (selamectin group) or day 40 (ivermectin group). Infection recurrence nor adverse reactions were noted in either group.

D. Eshar and T. Bdolah-Abram
NAVC Clin Brf, 11:5

Antibody titers to assess immunity

FICTION: Antibody titers can be used in place of annual vaccination boosters to assess immunity. FACT: It depends! Specific limitations apply to titers when assessing the immune status of an individual patient. Titers for CDV, CPV, and feline parvovirus (panleukopenia) correlate extremely well with immunity; dogs/cats that have a "positive" titer are considered immune, quite likely for many years. A "negative" titer does not always correlate with susceptibility. Antibody is a glycoprotein and does dissipate over time. Animals that were previously vaccinated may lose Ab over time; however, immunologic "memory" (B-lymphocytes) is retained for many years for these 3 diseases. Exposure to virulent virus in a previously vaccinated, but antibody negative patient, typically results in a rapid anamnestic 'boost' of antibody titer and a protective immune response. Annual or triennial boosters are merely a form of immunologic insurance for these 3 diseases. For other diseases, antibody titers are *not* good correlates of protective immunity. Feline herpesvirus-1 and feline calicivirus titers can be obtained, but are not recommended for the assessment of the individual patient's immunity to those diseases. FeLV titers are not valid at all because of the lack of a valid test method. Leptospirosis titers are routinely performed but generally are used to define exposure/infection, not immunity.

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

Ditch the "waiting room"

Change the mindset of your practice team. Eliminate the term "waiting room" and refer to it as the "welcome room" or the "receiving room." No one these days should be waiting long enough to call it waiting.

Michael Paul, DVM
DVM, 45:12