

Interpretive Summaries

SMALL ANIMALS

Frequency of urinary tract infection among dogs with pruritic disorders receiving long-term glucocorticoid treatment

Information was retrieved from medical records of 127 dogs with pruritic disorders that were receiving glucocorticoids for > 6 months in regard to results of bacterial culture of urine samples, type of glucocorticoid administered, dosage, frequency of administration, duration of treatment, and clinical signs of urinary tract infection (UTI). In addition, urine samples were collected from 94 dogs with pruritic disorders that were not receiving glucocorticoids and submitted for bacterial culture.

For 23 of the 127 (18.1%) dogs, results of bacterial culture were positive at least once, but none of the dogs had clinical signs of UTI. Pyuria and bacteriuria (present vs absent) were found to correctly predict results of bacterial culture for 89.9% and 95.8% of the samples, respectively. Type of glucocorticoid, dosage, frequency of administration, and duration of treatment were not associated with frequency of UTI. None of the urine samples from dogs not receiving glucocorticoids yielded bacterial growth. The frequency of UTI was significantly higher for dogs treated with glucocorticoids than for dogs that had not received glucocorticoids, suggesting that dogs receiving long-term glucocorticoid treatment have an increased risk of developing a UTI. On this basis, we recommend that urine samples be submitted for bacterial culture at least yearly for such dogs.—S. M F. Torres et al (*J Am Vet Med Assoc* 2005;227:239–243).

Evaluation of a rebound tonometer for measuring intraocular pressure in dogs and horses

A study was performed to compare intraocular pressure (IOP) measurements obtained with a rebound tonometer in dogs and horses with values obtained by means of applanation tonometry and direct manometry. In 10 enucleated eyes from 5 dog cadavers and 6 enucleated eyes from 3 horse cadavers, IOP measured by means of direct manometry was compared with IOP measured with the rebound tonometer, and in 100 dogs and 35 horses with clinically normal eyes, results of rebound tonometry were compared with results of applanation tonometry.

For the enucleated dog and horse eyes, there was a strong ($r^2 = 0.99$) linear relationship between pressures obtained by means of direct manometry and those obtained by means of rebound tonometry. Mean \pm SD

IOPs obtained with the rebound tonometer were 10.8 ± 3.1 mm Hg (range, 5 to 17 mm Hg) and 22.1 ± 5.9 mm Hg (range, 10 to 34 mm Hg) for the dogs and horses, respectively. These values were, on average, 2 mm Hg lower in the dogs and 1 mm Hg higher in the horses, compared with values obtained with the applanation tonometer. Results suggest that the rebound tonometer provides accurate estimates of IOP in clinically normal eyes in dogs and horses.—A. M. Knollinger et al (*J Am Vet Med Assoc* 2005;227:244–248)

Use of a percutaneous atrial septal occluder device for complete acute occlusion of an intrahepatic portosystemic shunt in a dog

A 3-month-old sexually intact male German Shepherd Dog was evaluated because of signs of depression, ataxia, and collapse. Clinicopathologic abnormalities included low serum BUN and albumin concentrations and high serum liver enzyme activities and plasma ammonia and serum bile acids concentrations. Abdominal ultrasonography revealed an intrahepatic portosystemic shunt (PSS). The dog was anesthetized; via a transjugular approach, guidewires and catheters were directed with fluoroscopic guidance to locate the shunt and determine its anatomic features. Minimal changes in portal vein pressure during temporary shunt balloon occlusion enabled complete shunt attenuation, which was performed by use of a self-expanding septal occlusion device that is typically used for treatment of atrial septal defects in humans. Following initial misplacement of the device, the procedure was repeated successfully 2 months later and resulted in complete shunt occlusion. One year after this second procedure, the dog was clinically normal and serum bile acids concentration was within reference limits. In certain dogs with intrahepatic PSSs, treatment with minimally invasive interventional techniques involving fluoroscopy may reduce the morbidity and mortality rates associated with more invasive surgical procedures.—C. Weisse et al (*J Am Vet Med Assoc* 2005;227:249–252).

Volvulus of the colon in four dogs

Four dogs were examined because of vomiting of 7 to 48 hours' duration. Gas-distended segments of intestine were identified radiographically in all dogs, but the affected portion of the intestinal tract could not always be identified as the colon. Volvulus of the colon was diagnosed during surgery in all 4 dogs. Gastrocolopexy was performed following derotation of the colon in 3 of

the dogs. In 1 dog, a colectomy and an ileorectal anastomosis were performed. All 4 dogs survived. Volvulus of the colon should be considered as a cause of vomiting of short duration in dogs for which there is radiographic evidence of intestinal dilatation.—A. M. Bentley et al (*J Am Vet Med Assoc* 2005;227:253–256).

Evaluation of nonsurgical treatment of atlantoaxial subluxation in dogs: 19 cases (1992–2001)

A retrospective study of 19 dogs with atlantoaxial subluxation that were treated with a cervical splint was undertaken to evaluate the outcome of nonsurgical management. Medical records were reviewed and potential risk factors were analyzed for association with good long-term outcome.

A good long-term outcome was identified in 62.5% of dogs for which information was available a minimum of 1 year after removal of the splint. Duration of clinical signs for ≤ 30 days prior to admission at a referral hospital was significantly associated with a good long-term outcome, regardless of initial neurologic status. The neurologic grade, age at onset of clinical signs, radiographic appearance of the dens, and a history of trauma were not associated with outcome. A good long-term outcome may be achieved in dogs managed nonsurgically for atlantoaxial subluxation.—M. E. Havig et al (*J Am Vet Med Assoc* 2005;227:257–262).

Bone marrow necrosis in dogs: 34 cases (1996–2004)

Reports of cytologic evaluations of bone marrow specimens from 609 dogs were reviewed, and 34 (5.6%) were found to have evidence of bone marrow necrosis. Nine dogs had no evidence of associated diseases or drug or toxin exposure and were classified as having idiopathic bone marrow necrosis. Twenty-five dogs had associated disease conditions (ie, sepsis, systemic lupus erythematosus, lymphosarcoma, heartworm disease, blastomycosis, idiopathic epilepsy, arthritis, hyperadrenocorticism, diarrhea, hepatitis, carcinoma, leukemia, and mast cell tumor) or drug exposures (ie, phenobarbital, carprofen, mitotane, metronidazole, cyclophosphamide, vincristine, colchicine, and fenbendazole). Results suggest that bone marrow necrosis may be common in dogs with hematologic disorders and that although bone marrow necrosis is associated with an underlying disease condition or drug exposure in most dogs, idiopathic bone marrow necrosis may also be identified.—D. J. Weiss (*J Am Vet Med Assoc* 2005;227:263–267).

Signalment and clinical features of diskospondylitis in dogs: 513 cases (1980–2001)

Results of a case-control study revealed that male dogs, older dogs, and Great Danes were more likely to be affected with diskospondylitis, compared with female dogs, dogs younger than 1 year of age, and mixed-breed dogs, respectively. Concurrent disease conditions were diagnosed in most dogs and were believed to be the

source of the causative microbial agent. Mean duration of antimicrobial administration for 123 dogs was 54 weeks, an interval that is longer than traditionally described. An attempt to definitively identify a causative agent via microbial culture of lesions, blood, or urine is recommended. However, microbial agents isolated in blood or urine cultures may not necessarily represent the causative agent in the vertebral lesions. Poor penetration of antimicrobial drugs into sclerotic vertebral endplates and resistance of *Staphylococcus* spp to first-generation cephalosporin drugs may be causes of the prolonged treatment times. Surgical extirpation of the intervertebral disk to remove avascular tissue and procure specimens for microbial culture and definitive diagnosis may speed recovery.—B. A. Burkert et al (*J Am Vet Med Assoc* 2005;227:268–275).

EQUINE

Evaluation of plasma catecholamine and serum cortisol concentrations in horses with colic

Colic is an important cause of illness and death among horses. Unlike other clinicopathologic abnormalities that develop in horses with colic, plasma epinephrine and norepinephrine and serum cortisol concentrations are not well documented. The purposes of this prospective, observational study were to evaluate plasma epinephrine, norepinephrine, and lactate concentrations and serum cortisol concentration in horses with colic and assess the relationship of these variables with clinical signs, routinely measured clinicopathologic variables, and outcome. Blood samples were collected from 35 horses with colic within 30 minutes of arrival at a veterinary hospital. Twenty-six horses survived treatment. Compared with concentrations in survivors, plasma epinephrine, plasma lactate, and serum cortisol concentrations were higher in nonsurvivors. Higher plasma epinephrine, plasma lactate, and serum cortisol concentrations were significantly associated with increased risk of nonsurvival, but plasma norepinephrine concentration was not associated with outcome. The risk of death appears to be greater in colic-affected horses with high circulating concentrations of epinephrine and cortisol.—K. W. Hinchcliff et al (*J Am Vet Med Assoc* 2005;227:276–280).

Evaluation of electroacupuncture treatment of horses with signs of chronic thoracolumbar pain

Electroacupuncture treatment was evaluated for use in horses with signs of chronic thoracolumbar pain. Horses were randomly allocated to 1 of 3 treatment groups. Horses in group 1 received electroacupuncture stimulation (once every 3 days for 5 treatments), those in group 2 received phenylbutazone (2.2 mg/kg [1 mg/lb], PO, q 12 h, for 5 days), and those in group 3 received saline (0.9% NaCl) solution (20 mL, PO, q 12 h, for 5 days). Thoracolumbar pain scores (TPSs) were evaluated before (baseline) and after each treatment. Mean \pm SE TPSs in horses receiving phenylbutazone or saline

solution did not change significantly during the study. After the third treatment, mean \pm SE TPS (2.1 ± 0.6) in horses receiving electroacupuncture stimulation was significantly lower than baseline (6.0 ± 0.6) TPS. Mean \pm SE TPSs in horses receiving electroacupuncture stimulation were significantly lower than baseline TPSs and TPSs in horses receiving phenylbutazone or saline solution after the third treatment to 14 days after the last treatment. Thoracolumbar pain scores are useful for evaluating the efficacy of various analgesic methods used for thoracolumbar pain in horses. Electroacupuncture was effective for treatment of chronic thoracolumbar pain in horses.—H. Xie et al (*J Am Vet Med Assoc* 2005;227:281–286).

RUMINANTS

Abomasal impaction in Holstein-Friesian cows: 80 cases (1980–2003)

Abomasal impaction is an infrequently diag-

nosed disease of adult cattle that is characterized by drier-than-normal abomasal contents and a larger-than-normal abomasal volume. Impaction may involve the pyloric antrum alone or both the pyloric antrum and abomasal body. Review of medical records of 80 Holstein-Friesian cattle \geq 2 years old with abomasal impaction suggests that physical examination findings and results of serum biochemical analyses do not facilitate the diagnosis of abomasal impaction and that exploratory right flank laparotomy is necessary to make the diagnosis. Short-term (ie, discharged from the hospital) survival rate was significantly higher for cows with impaction of the pyloric antrum alone (42/45 [93%]) than for cows with impaction of the body and antrum (12/24 [50%]). Abomasal impaction should be considered as a differential diagnosis for inappetence and poor milk production in lactating dairy cows.—T. Wittek et al (*J Am Vet Med Assoc* 2005;227:287–291).



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