

Interpretive Summaries

SMALL ANIMALS

Association between results of ambulatory electrocardiography and development of cardiomyopathy during long-term follow-up of Doberman Pinschers

Ventricular premature contractions (VPC) were detected on initial ambulatory electrocardiograms (Holter recordings) of 59 of 114 (52%) overtly healthy Doberman Pinschers without echocardiographic evidence of cardiac disease. Follow-up information was available for all dogs for at least 2 years, and as long as 10 years, after initial evaluation. The likelihood of a dog having VPC was associated with increasing age and being male, and having VPC was predictive of subsequent development of dilated cardiomyopathy. In particular, dogs with > 50 VPC/24 hours and any number of couplets or triplets of VPC/24 hours had a higher likelihood of developing dilated cardiomyopathy than did other dogs. Forty-seven percent (54/114) of the dogs developed dilated cardiomyopathy, and of those dogs with dilated cardiomyopathy that died (n = 42), 25 died after the onset of congestive heart failure, 15 died suddenly, and 2 died of noncardiac causes. Dogs that died suddenly were approximately 1 year younger than those that developed congestive heart failure.—C. A. Calvert et al (*J Am Vet Med Assoc* 2000;216:34–39).

Incidence of and breed-related risk factors for gastric dilatation-volvulus in dogs

A 5-year prospective study was conducted to determine the incidence of gastric dilatation-volvulus (GDV) in 11 large and giant breeds of dogs and identify breed characteristics that predispose dogs to this syndrome. Incidence of GDV increased with age, and 30 of the 105 dogs (28.6%) that developed GDV died. The estimated lifetime risk of developing GDV in these large and giant breeds was 24 and 21.6%, respectively, whereas the lifetime risk of dying of GDV for all breeds was 7%. The only breed-specific characteristic associated with a decreased incidence of GDV was an owner-perceived personality trait of happiness.—L. T. Glickman et al (*J Am Vet Med Assoc* 2000;216:40–45).

Familial glomerulonephropathy in a litter of Beagles

Membranoproliferative glomerulonephropathy was diagnosed in 5 of 7 adult Beagles from the same litter. Dogs were raised in more than 1 area of the United States. One died without evidence of renal disease when it was 3 years old. At 8 years of age, 2 dogs developed signs of uremia, including polyuria, polydipsia,

and infrequent episodes of anorexia and vomiting. Serum biochemical variables and urine specific gravity values were consistent with renal azotemia. Both dogs had proteinuria. Although healthy, 3 of the 4 remaining Beagles had proteinuria. Of these 3, only 1 was azotemic. Membranoproliferative glomerulonephritis was diagnosed on the basis of results of histologic examination of renal biopsy specimens from 4 of the dogs. Electron microscopy performed on 3 of the renal biopsy specimens revealed identical lesions, consisting of an extremely thickened glomerular basement membrane with multilaminar splitting. Immunoglobulin or amyloid deposits were not detected. On the basis of similar clinicopathologic abnormalities, common genetic background, and identical histopathologic and electron microscopic findings, familial renal disease was diagnosed. Additional studies involving other related Beagles are needed to identify the hereditary nature of membranoproliferative glomerulonephropathy in Beagles.—J-Y. Rha et al (*J Am Vet Med Assoc* 2000;216:46–50).

Intrathoracic and concurrent orthopedic injury associated with traumatic rib fracture in cats: 75 cases (1980–1998)

Medical records of 75 cats (median age, 3 years) with traumatic rib fracture were reviewed to characterize rib, intrathoracic, and concurrent orthopedic injuries and prognosis. Twenty-five (58%) cats with reported cause of trauma were injured by interaction with another animal. Forty-seven (78%) cats that were treated survived. Cats that died had a median duration of hospitalization of < 1 day. Ten (13%) cats had flail chest. Sixty-five (87%) cats had intrathoracic injury (median, 2 injuries). All 9 cats without detected intrathoracic injury that were treated survived. Thirty-five (47%) cats had concurrent orthopedic injury. Cats with flail chest, pleural effusion, or diaphragmatic hernia were significantly more likely to die than cats without each injury. Aggressive treatment of cats with traumatic rib fracture is warranted, because the prognosis is generally favorable. Diagnosis and treatment of intrathoracic injury associated with traumatic rib fracture should precede management of concurrent orthopedic injury.—B. J. Kraje et al (*J Am Vet Med Assoc* 2000;216:51–54).

Risk factors for acquired myasthenia gravis in cats: 105 cases (1986–1998)

Initial clinical signs and risk factors for acquired myasthenia gravis (MG) were determined for various breeds of cats. A diagnosis of acquired MG was confirmed in 105 cats by use of immunoprecipitation

radioimmunoassay. Compared with mixed-breed cats, Abyssinians (including Somalis) were at higher risk for developing MG. Significant differences were not detected between sexes. Relative risk increased after 3 years of age. Generalized weakness without megaesophagus and weakness associated with a cranial mediastinal mass were the most common clinical signs observed. Focal signs, including megaesophagus and dysphagia without generalized weakness, were also observed.—G. D. Shelton et al (*J Am Vet Med Assoc* 2000;216:55–57).

Prognosis for presumed feline vaccine-associated sarcoma after excision: 61 cases (1986–1996)

Medical records of 61 cats that were treated initially for vaccine-associated sarcomas (VAS) by excision alone between 1986 and 1996 were reviewed. Time to first recurrence (TFR), development of metastases, overall survival rate, and effects of type of surgery (marginal, wide, or radical) and location of tumor were determined. Cats with tumors of the limbs had significantly longer TFR than cats with tumors of the trunk. Additionally, radical first excision of VAS resulted in significantly longer TFR than marginal first excision. Overall rate of metastasis was 22.5%; metastasis most commonly involved the lungs. Few cats treated by excision alone were long-term (> 2 years) survivors. Radical first excision of VAS is imperative for extended TFR; however, surgical treatment alone is seldom curative.—A. E. Hershey et al (*J Am Vet Med Assoc* 2000;216:58–61).

RUMINANTS

Efficacy of florfenicol for treatment of naturally occurring infectious bovine keratoconjunctivitis

A randomized controlled field trial was conducted to determine whether florfenicol was efficacious for treatment of calves with naturally occurring infectious bovine keratoconjunctivitis (IBK). Calves (n = 143) with IBK were randomly assigned to 1 of 3 treatment groups. Calves in the SC treatment group received a single dose of florfenicol (40 mg/kg [18.2 mg/lb] of body weight), SC, on day 0. Calves in the IM treatment group received florfenicol (20 mg/kg [9.1 mg/lb]), IM, on days 0 and 2. Calves in the control group received injections of saline solution (0.9% NaCl), IM, on days 0 and 2. Calves were reevaluated every other day for 20 days after treatment. Corneal ulcers healed by day 20 in 48 of 49 (98%) calves treated with florfenicol IM, 39 of 42 (93%) calves treated with florfenicol SC, and 33 of 52 (63%) control calves. Results suggest that florfenicol is effective for treatment of calves with naturally occurring IBK.—J. A. Angelos et al (*J Am Vet Med Assoc* 2000;216:62–64).

Cytogenetic survey of Holstein bulls at a commercial artificial insemination company to determine prevalence of bulls with centric fusion and chimeric anomalies

To determine prevalence of Holstein bulls with chromosomal anomalies, particularly the 1/21 centric fusion (CF) anomaly, cytogenetic analysis was performed on samples obtained from 606 Holstein bulls at a commercial artificial insemination (AI) company in the United States. Lymphocytes from heparinized blood samples were cultured and chromosome spreads were examined. Chromosomal abnormalities were detected by examining 10 chromosome spreads per bull. None of the bulls had any type of CF. However, 6 bulls were identified as chimeric animals. Pedigree analysis revealed that there currently is considerable genetic concentration in the United States Holstein population; 1 CF- or chimeric-affected bull could quickly have a large influence on the AI-sired population. For example, 1 bull was sire or maternal grandsire to 85 of the bulls tested in this study, and 739 of 1,212 (61%) sire and maternal-grandsire possibilities in our sample population were accounted for by only 18 bulls. Analysis of these results supports previous indications that CF is extremely rare in Holstein bloodlines in the United States. However, chimeric bulls are more common. Early cytogenetic screening should be encouraged for prospective bulls intended for use in AI programs.—B. E. Seguin et al (*J Am Vet Med Assoc* 2000;216:65–67).

WILDLIFE

Hypernatremia in neonatal elk calves: 30 cases (1988–1998)

Farming of elk (*Cervus elaphus*) in North America and western Canada has increased considerably since 1992. These animals represent a substantial financial investment; it appears that veterinarians are expected to develop a knowledge of husbandry as well as the medical and surgical problems associated with these livestock.

Diarrhea in neonatal elk calves is not uncommon, and treatment given by farmers often includes oral administration of antibiotics and electrolyte solutions. In this species, diarrhea is significantly associated with hypernatremia. The mechanism is not known, but hypernatremia is thought to be caused by severe water losses compounded by some degree of renal insufficiency and, in some instances, by oral administration of electrolyte solutions that contain high quantities of sodium.

Treatment of elk calves with hypernatremia is labor intensive and difficult, because of the potential of iatrogenic cerebral edema. Rapid rehydration with hyperosmolar solutions, as is sometimes done in bovine calves, appears to be contraindicated in elk calves; therefore, it may be appropriate to use electrolyte solutions containing lower sodium concentrations than those often used to treat bovine calves.—J. L. Carmalt et al (*J Am Vet Med Assoc* 2000;216:68–70).