

## Interpretive Summaries

### SMALL ANIMALS/EXOTICS

#### **Breed distribution of dogs with diabetes mellitus admitted to a tertiary care facility**

The objective of our study was to determine which dog breeds are at low or high risk for developing diabetes mellitus (DM). To this end, a cohort study was performed. During 1993 to 1998, 221 dogs with diabetes mellitus and 42,882 dogs that did not have diabetes mellitus were identified for inclusion in the study from a hospital population. Results of the study suggest that Samoyeds, Miniature Schnauzers, Miniature Poodles, Pugs, and Toy Poodles are at high risk for developing DM. German Shepherd Dogs, Golden Retrievers, and American Pit Bull Terriers are at low risk for developing the disease. The finding that certain dog breeds are at low or high risk for developing DM suggests that some genetic defects may predispose to development of DM, whereas other genetic factors may protect from development of DM.—R. S. Hess et al (*J Am Med Vet Assoc* 2000;216:1414–1417).

#### **Evaluation of a commercial enzyme-linked immunosorbent assay for detection of *Borrelia burgdorferi* exposure in dogs**

A commercially available ELISA kit for the detection of antibodies against *Borrelia burgdorferi* was used to evaluate serum samples from 440 military working dogs in the US Department of Defense. Results were confirmed with western blot analysis. The ELISA had a sensitivity of 82% and a specificity of 100%. Although these findings suggest a high positive-predictive value for this assay, use of this kit may result in misdiagnosis of negative results when actually the dogs have been exposed, naturally or by vaccination, to *B burgdorferi*.—J. T. Sheets et al (*J Am Vet Med Assoc* 2000;216:1418–1422).

#### **Severe hypercalcemia in a dog with a retained fetus and endometritis**

A 10-month-old sexually intact female German Shorthaired Pointer examined because of lethargy, episodes of fever, inappetence, and vomiting was found to have severe hypercalcemia. Results of laboratory testing, radiography, and ultrasonography excluded previously recognized causes of hypercalcemia in dogs. Instead, the dog was found to have purulent endometritis and an incompletely resorbed fetus. Treatment with fluids IV, diuretics, and calcitonin failed to adequately reduce serum calcium concentration, but serum calcium concentration was normal within 4 days after the dog underwent an ovariohys-

terectomy. Retention of one or more fetuses and endometritis should be included in the differential diagnosis for dogs with hypercalcemia.—R. A. Hirt et al (*J Am Vet Med Assoc* 2000;216:1423–1425).

#### **Acute ibuprofen toxicosis in a ferret**

A 20-month-old 1.44-kg (3.2-lb) castrated male ferret was examined because of vomiting, defecating in an abnormal location, dyspnea, and signs of depression. Within 5 minutes of initial evaluation, the ferret became nonresponsive to all stimuli except deep pain. Despite intensive supportive treatment, the ferret died. Toxicologic analyses for ibuprofen were performed on serum, urine, and liver, using gas chromatography and mass spectrophotometry. Serum ibuprofen concentrations were 245 µg/g before and 269 µg/g after death.

Acute ibuprofen toxicosis may cause severe lethargy progressing to coma, apnea, and death in ferrets. Ibuprofen toxicosis should be considered in differential diagnoses for ferrets with signs of depression, with or without clinical signs of gastrointestinal tract dysfunction.—T. E. Cathers et al (*J Am Vet Med Assoc* 2000;216:1426–1428).

#### **Idiopathic pure red cell aplasia and nonregenerative immune-mediated anemia in dogs: 43 cases (1988–1999)**

Medical records of 43 dogs with pure red cell aplasia (PRCA) and nonregenerative immune-mediated anemia (NRIMA) were reviewed. Median age of the dogs was 6.5 years. Spayed females and Labrador Retrievers were overrepresented. Dogs had Hct values of 5 to 26% and 0 to 37.8 × 10<sup>3</sup> reticulocytes/ml. Results of direct Coombs' tests were positive in 57% of dogs. Other features were spherocytosis (54% of dogs), high serum alanine aminotransferase (44%) and alkaline phosphatase (46%) activities, low serum bicarbonate concentrations (44%), hyperferremia (81%), and high percentage saturation of transferrin (89%). Results of bone marrow analysis varied from PRCA (5%) to erythroid hyperplasia (55%). Myelofibrosis was confirmed in 37% of dogs. Dogs were treated with immunosuppressive drugs. Twenty-seven percent did not respond and were euthanized within 1 month. Remaining dogs responded within 1 to 10 weeks; Hct values just less than or within reference range were achieved in 55% of dogs. Twenty-one percent of dogs relapsed, with many requiring long-term treatment. These results indicate that PRCA and NRIMA are severe variants of hemolytic anemia in dogs that require aggressive treatment with immunosuppressive

drugs.—T. Stokol et al (*J Am Vet Med Assoc* 2000; 216:1429–1436).

### **Endogenous lipid pneumonia in cats: 24 cases (1985–1998)**

Medical records of 24 cats in which endogenous lipid pneumonia (EnLP) was confirmed by histologic examination of necropsy specimens were reviewed to determine clinical signs, radiographic and histologic abnormalities, and concurrent diseases and to determine the pathologic importance of EnLP in cats.

All cats had nonspecific clinical abnormalities such as lethargy, anorexia, or weight loss; 16 had signs of respiratory tract disease. All cats had concurrent systemic diseases, and clinicopathologic abnormalities were reflective of these conditions. Nonspecific abnormalities were detected on thoracic radiographs from 9 of 11 cats. Ten cats had an underlying obstructive pulmonary disease that was the likely cause of EnLP. Although EnLP was not considered to be the cause of death of any of these cats, results of the present study do suggest that EnLP may be a marker for potentially severe underlying obstructive pulmonary disease.—D. J. Jones et al (*J Am Vet Med Assoc* 2000;216:1437–1440).

## **EQUINE**

### **Prevalence and clinical importance of heart murmurs in racehorses**

A clinical and retrospective study using echocardiography and review of horses' race records for the preceding 2 years was performed to determine the prevalence of various types of heart murmurs in 846 Thoroughbred racehorses and to assess their association with performance. Cardiac auscultations were performed by 3 individuals; for 30 horses, Doppler echocardiographic examinations were also performed. Statistical analyses of race records for 753 horses were performed to assess association of heart murmurs with performance.

Heart murmurs were detected by cardiac auscultation in 81.1% of horses. Systolic murmurs over the heart base were most common; 43.1% of horses had systolic murmurs that were loudest over the pulmonary valve area, and 27.4% of horses had systolic murmurs that were loudest over the aortic valve area. Systolic murmurs over the tricuspid valve were detected in 28.5% of horses, whereas systolic murmurs over the mitral valve area were detected in only 3.8% of horses. Diastolic murmurs were much less common than systolic murmurs. Review of race records did not reveal a significant association between murmurs and performance.

Results suggest that heart murmurs are a common finding in racehorses; most of these heart murmurs do not appear to be clinically important.—N. G. Kriz et al (*J Am Vet Med Assoc* 2000;216:1441–1445).

### **Mesenteric rents as a source of small intestinal strangulation in horses: 15 cases (1990–1997)**

Medical records of 15 horses with small intestinal obstruction through a mesenteric rent were reviewed. Seven of the 15 horses had a history of colic, 4 of which had undergone exploratory celiotomy.

Most of the mesenteric rents were located in the mesentery of the small intestine (13 horses). The remaining defects were within the descending mesocolon (3) or the ascending mesocolon (1). Two horses had mesenteric defects within the small and large mesenteries. Seven horses were euthanatized at surgery because of inability to reduce the entrapped portion of intestine (3), uncontrollable hemorrhage (2), inability to close the rent (1), and the amount of intestine involved (1). Of 8 horses that survived, 7 required intestinal resection and anastomosis. The median length of intestine resected was 2.6 m (range, 0.6 m to 4.5 m). The mesenteric rents were closed in all but 2 horses. One horse developed a strangulating obstruction through the open rent.

Seven of 15 horses in our study were discharged from the hospital (ie, short-term survival rate of 7/15). Long-term follow-up information was available for 5 of the 7 horses (follow-up duration of 5 months to 9 years); 2 died as a result of colic, and 1 horse was euthanatized because of severe arthritis. Long-term survival rate was 2/5.—J. M. Gayle et al (*J Am Vet Med Assoc* 2000;216:1446–1449).

## **RUMINANTS**

### **Herd-level risk factors for infection with *Mycobacterium paratuberculosis* in US dairies and association between familiarity of the herd manager with the disease or prior diagnosis of the disease in a herd and use of preventive measures**

The objective of the study reported here was to evaluate associations between herd status for *Mycobacterium paratuberculosis* infection (Johne's disease), use of herd-management practices, and familiarity of the herd manager with Johne's disease, or a prior diagnosis of the disease in the herd. As part of a population-based cross-sectional study of US dairies, herd-level factors associated with *M paratuberculosis* herd-infection status included number of cows in a herd, region of country, percentage of cows in a herd born on other dairies, use of group housing for periparturient cows, and use of group housing for calves prior to weaning. Analysis of these risk factors confirmed management practices generally recommended for control of Johne's disease. Results revealed a lack of association between use of preventive management practices and familiarity of a herd manager with Johne's disease or a prior diagnosis of the disease in a herd. This suggests the need for a new educational focus if successful control of *M paratuberculosis* infection is to be achieved in the future —S. J. Wells and B. A. Wagner (*J Am Vet Med Assoc* 2000;216:1450–1457).