

Interpretive Summaries

SMALL ANIMALS

Effects of a synthetic facial pheromone on behavior of cats

Healthy and clinically ill cats were used in each of 2 studies to evaluate the effects of a synthetic analogue of feline facial pheromone (FFP) on behavior and food intake. In study 1, cats were assigned to exposure to FFP or to a vehicle solution (70% ethanol). Cats were placed in a cage containing a towel that had been sprayed with FFP or vehicle. Cats were then videotaped for 125 minutes, during which food intake was measured. In study 2, group-1 cats had a carrier placed in their cages, and group-2 cats did not. All cats were exposed to FFP, and 24-hour food intake was measured.

Differences between behaviors of healthy versus clinically ill cats were not identified. In the first study, significant increases in grooming, interest in food, and food intake were found in cats exposed to FFP. In the second study, 24-hour food intake was significantly greater in cats exposed to FFP and the cat carrier, compared with cats exposed to FFP alone.

Synthetic FFP was developed to decrease anxiety-related behaviors of cats. It has been reported that this pheromone decreases the amount of anxiety cats may have when placed in unfamiliar surroundings. Our results suggest that exposure to FFP may be useful to decrease anxiety and, thereby, increase food intake of hospitalized cats.—C. A. Griffith et al (*J Am Vet Med Assoc* 2000;217:1154–1156).

Effect of a bioflavonoid dietary supplement on acetaminophen-induced oxidative injury to feline erythrocytes

A controlled study was performed to determine whether the erythrocytes of cats given a commercial bioflavonoid antioxidant dietary supplement would be resistant to oxidative injury to erythrocytes induced by acetaminophen, compared with those of cats that did not receive the supplement. All cats challenged with acetaminophen had evidence of oxidative injury and developed increased methemoglobin concentrations and Heinz bodies. However, cats that received the supplement developed significantly fewer Heinz bodies than cats that did not receive the supplement. Concentrations of reduced and oxidized glutathione in blood were not significantly altered by administration of the supplement, regardless of acetaminophen challenge. Cats that did not receive the supplement had a significantly increased ratio of reduced to oxidized glutathione after acetaminophen challenge, compared with cats that received the supplement. Results indicate that oral administration of a bioflavonoid antioxi-

dant reduces oxidative injury to feline erythrocytes caused by acetaminophen and may be a useful supplement to cats at risk for oxidative injury.—R. W. Allison et al (*J Am Vet Med Assoc* 2000;217:1157–1161).

Cerebellar degeneration in Old English Sheepdogs

Related and unrelated Old English Sheepdogs (OESD) were evaluated by clinical examination, histologic evaluation, and pedigree analysis to determine whether cerebellar degeneration is a genetic disorder in this breed and whether there are genetic implications. Twenty-four OESD that were chosen because of a family history of gait abnormalities were given physical and neurologic examinations. Twelve of the 24 OESD evaluated by neurologic examination had a progressive gait abnormality. Tissue specimens from 25 brains of clinically unaffected or affected OESD were examined histologically. Nine OESD that had cerebellar degeneration confirmed histologically as well as 2 clinically affected littermates of those affected OESD were included in a pedigree analysis. Clinical signs of cerebellar degeneration typically started later in life than in dogs of other breeds. Results of pedigree analysis revealed that 11 of 49 dogs were affected in 9 litters, providing an affected-to-total ratio of 22.49%. Results of our study indicate that a slowly progressing late-onset form of cerebellar degeneration develops in OESD, and the mode of inheritance is by an autosomal recessive gene.—H. S. Steinberg et al (*J Am Vet Med Assoc* 2000;217:1162–1165).

Concurrent disorders in dogs with diabetes mellitus: 221 cases (1993–1998)

Medical records of 221 dogs with diabetes mellitus were reviewed to determine the most common concurrent disorders in diabetic dogs. The most commonly identified concurrent disorders included hyperadrenocorticism, urinary tract infection, dermatitis, otitis, acute pancreatitis, neoplasia, and hypothyroidism. Hyperadrenocorticism was diagnosed in 51 (23%) dogs on the basis of clinical signs and results of a low-dose dexamethasone suppression test (41 dogs), an adrenocorticotrophic hormone stimulation test (5), both tests (4), or histologic evaluation of necropsy specimens (1). Urine samples from 159 (72%) dogs were submitted for aerobic bacterial culture, and 34 (21%) yielded bacterial growth. *Escherichia coli* was the most commonly isolated organism. Thirty-six (16%) dogs had dermatitis or otitis. Acute pancreatitis was diagnosed in 28 (13%) dogs. Eleven (5%) dogs had tumors for which a histologic diagnosis was obtained. Eight (4%) dogs were hypothyroid. Prompt treatment of these dis-

orders may improve the prognosis of dogs with DM and may prevent complications such as insulin resistance or diabetic ketoacidosis.—R. S. Hess et al (*J Am Vet Med Assoc* 2000;217:1166–1173).

EQUINE

Analysis of risk factors for the development of equine protozoal myeloencephalitis in horses

The objective of this study was to identify risk factors for exposure to *Sarcocystis neurona* and development of equine protozoal myeloencephalitis (EPM) in horses. Data for 251 horses with EPM, 251 horses with disease other than those of the nervous system (non-neurologic control horses), and 225 horses with other neurologic diseases (neurologic control horses) were analyzed. Risk factors associated with an increased risk of developing EPM included age, season of admission, prior diagnosis of EPM on the premises, opossums on premises, wooded premises, health events prior to admission, and racing or showing as a primary use. Factors associated with a reduced risk of developing EPM included protection of feed from access by wildlife and proximity of a creek or river to the premises where the horse resided. Identification of risk factors for development of EPM is important for design of strategies to control the disease.—W. J. Saville et al (*J Am Vet Med Assoc* 2000;217:1174–1180).

Evaluation of risk factors associated with clinical improvement and survival of horses with equine protozoal myeloencephalitis

The purpose of this study was to identify risk factors associated with clinical improvement and survival of horses with equine protozoal myeloencephalitis (EPM). Data for 251 horses with EPM were used in the study. Primary use of a horse prior to admission and treatment of affected horses were associated with clinical improvement. The likelihood of improvement after diagnosis of EPM was lower in horses used for breeding or pleasure activities, compared with horses used for racing. Treatment for EPM increased the probability that an affected horse would improve. Severity of clinical signs and improvement of a horse with EPM were associated with survival. The likelihood of survival among horses with EPM was lower for horses with more severe clinical signs and higher for horses with EPM that improved after the disease was diagnosed. These findings suggest that treatment of horses with EPM is efficacious and important for clinical improvement and survival of horses with EPM.—W. J. Saville et al (*J Am Vet Med Assoc* 2000;217:1181–1185).

Use of an external ring fixator for correction of an acquired angular limb deformity in a donkey

A 5-month-old donkey was referred for treatment of an angular limb deformity that had developed sec-

ondary to malunion of a Salter-Harris type-II fracture of the proximal left radial physis and an adjacent transverse fracture of the ulna. Because of the chronicity and location of the fracture and the degree of deformity, gradual correction of the deformity with an adjustable hinged external ring fixator was attempted. The donkey was anesthetized, and 1 fixator ring was placed proximal to the point of maximal deformity, and 2 rings were placed distal. The proximal and middle fixator rings were connected with 2 hinged rods on the medial aspect of the limb and an angular motor assembly on the lateral aspect. Osteotomies of the radius and ulna were then performed.

The osteotomies were distracted at a rate of 1 mm every 24 hours to 1 mm every 8 hours (total distraction, 41 mm) on days 2 through 19, until the angular deformity was corrected. Pin tract infection developed 34 days after surgery and progressed despite treatment, necessitating removal of the fixator 48 days after surgery. The limb was placed in a full splint for an additional 28 days. At a follow-up examination 3 months after the splint was removed, the osteotomies were healed, and the angular deformity was corrected.—R. B. Eggleston et al (*J Am Vet Med Assoc* 2000;217:1186–1190).

RUMINANTS

Detection and isolation of coronavirus from feces of 3 herds of feedlot cattle during outbreaks of winter dysentery-like disease

A winter dysentery-like syndrome was observed in 6- to 9-month-old cattle in 3 feedlots (herds 1 to 3) in Iowa in 1999. Clinical signs in affected cattle included acute onset of diarrhea with high morbidity. Frank blood in dark (brown-black) fluid feces, signs of respiratory tract disease, including dyspnea, coughing, and nasal discharge, and increased rectal temperatures were observed in some cattle in all 3 herds. The morbidity rate for diarrhea in these cattle was 100, 100, and 22%, and the mortality rate was 1.7, 0, and 3.6% for herds 1 to 3, respectively. An ELISA and immune electron microscopy (IEM) were used for detection of bovine coronavirus (BCV) antigen and particles, respectively, in 16 of 25 and 20 of 25 fecal samples submitted. Using ELISA, 2 of 3 nasal swab specimens collected from calves in herd 2 had positive results for BCV. During necropsy, 3 calves had large blood clots and frank blood in the lumen of the spiral colon and rectum. Histologic lesions in the calves were mainly restricted to the large intestine and included epithelial necrosis, dilatation, and metaplasia of the crypts of the colon and rectum. The crypt epithelium tested positive for BCV antigen by use of a monoclonal antibody to BCV. Two BCV strains were isolated in cell culture from 6 fecal samples that had positive results when tested by use of ELISA and IEM. Bovine viral diarrhea virus (BVDV) was isolated from lung and lymph nodes from both calves that died in herd 1 but not from the calf that died in herd 3. Diagnosis of BCV associated with winter dysentery-like syndrome in these feedlot cattle

was confirmed by use of ELISA and IEM on fecal samples and nasal swab specimens collected from affected cattle and by use of immunohistochemistry on intestinal sections collected from calves during necropsy. The BVDV may have contributed to the disease syndrome and mortality seen in herd 1, but it was not detected in the other 2 herds. Feedlot cattle with acute onset of bloody diarrhea should be tested for BCV.—K-O Cho et al (*J Am Vet Med Assoc* 2000;217:xxx-xxx).

GENERAL

Evaluation of an in-house centrifugal hematology analyzer for use in veterinary practice

Blood samples from 147 dogs, 42 cats, and 60 horses admitted to a veterinary teaching hospital and from 24 cows in a commercial dairy herd were used to com-

pare CBC results obtained by use of an in-house centrifugal hematology analyzer with results obtained with an electrical-impedance light-scatter hematology analyzer and manual differential cell counting (reference method).

The centrifugal analyzer yielded error messages for 50 of 273 samples (18%). Error messages were most common for samples with values outside established reference ranges. There was an excellent correlation between results of the centrifugal analyzer and results of the reference method only for Hct in feline, canine, and equine samples; WBC count in canine and equine samples; granulocyte count in canine and equine samples; and reticulocyte count in canine samples. However, an inability to identify abnormal cells, the high percentage of error messages, and the wide confidence intervals precluded reliance on differential cell counts obtained with the centrifugal analyzer.—D. B. Bienzle et al (*J Am Vet Med Assoc* 2000;217:1195-1200).