

## Interpretive Summaries

### SMALL ANIMALS

#### **Analysis of cerebrospinal fluid from dogs and cats after 24 and 48 hours of storage**

Cerebrospinal fluid samples from 6 dogs were analyzed before and after storage for 24 and 48 hours at 4 C, and samples from 30 dogs and 6 cats were analyzed before and after storage with autologous serum (final concentration, 11 and 29%). Samples stored without serum yielded a high proportion of unrecognizable cells. Intact neutrophils were preferentially lost. Adding autologous serum to CSF samples yielded differential cell counts that did not differ significantly from those of fresh CSF samples. Although the number of unrecognizable cells in samples with serum increased with time, this did not affect the cell distribution or diagnosis. Cytomorphology of samples stored with 11% serum more closely resembled that of fresh samples than did cytomorphology of samples stored with 29% serum. Cerebrospinal fluid collected at veterinary clinics remote from a diagnostic laboratory or during non-operational hours may retain diagnostic utility for at least 48 hours after addition of serum and cold storage.—D. Bienzle et al (*J Am Vet Med Assoc* 2000; 216:1761–1764).

#### **Prevalence of pituitary tumors among diabetic cats with insulin resistance**

To determine prevalence of detectable pituitary tumors, computed tomography was performed on 16 diabetic cats with insulin resistance that were also suspected to have acromegaly (n = 12) or pituitary-dependent hyperadrenocorticism (4). For comparison, computed tomography was also performed on 2 cats with well-controlled diabetes mellitus, and magnetic resonance imaging was performed on an additional 6 cats with well-controlled diabetes mellitus. Images were obtained before and immediately after IV administration of contrast medium.

A mass in the region of the pituitary gland was seen on images from all 16 cats with insulin resistance. Maximum width of the masses ranged from 4.4 to 12.7 mm; maximum height ranged from 3.1 to 12.6 mm. Results of computed tomography and magnetic resonance imaging performed on cats with well-controlled diabetes mellitus were normal. Results suggest that cats with insulin resistance suspected to have acromegaly or pituitary-dependent hyperadrenocorticism are likely to have a pituitary mass detectable by means of computed tomography or magnetic resonance imaging.—D. A. Elliot et al (*J Am Vet Med Assoc* 2000;216:1765–1768).

#### **Association between postoperative outcome and results of magnetic resonance imaging and computed tomography in working dogs with degenerative lumbosacral stenosis**

Results of magnetic resonance imaging (MRI) and computed tomography (CT) performed before and CT performed after decompressive surgery were compared with postoperative outcome in 12 working dogs with degenerative lumbosacral stenosis. Diagnoses were made on the basis of history and results of physical and neurologic examinations, radiography, CT, and MRI. Before surgery, dogs were unable to perform their duties despite appropriate conservative treatment. Surgical candidacy was limited to dogs < 10 years old with signs of pain during palpation of the lumbosacral area or elevation of the tail, mild or no hind limb motor deficits, mild or no hind limb muscle atrophy, and imaging findings consistent with degenerative lumbosacral stenosis. Postoperative outcome was determined on the basis of performance in standard training exercises. Six months after surgery, 8 of 12 dogs had returned to full active duty. No significant associations were found between results of imaging studies and postoperative outcome.—J. C. Jones et al (*J Am Vet Med Assoc* 2000;216:1769–1774).

#### **Prognostic factors and patterns of treatment failure in dogs with unresectable differentiated thyroid carcinomas treated with megavoltage irradiation**

Twenty-five dogs with unresectable differentiated thyroid carcinomas, without evidence of metastasis, were treated with megavoltage irradiation and monitored to determine treatment efficacy and prognostic factors influencing survival. The 3-year progression-free survival rate was 72%. Prognostic factors of progression-free survival were not determined. Rate of metastasis was affected by the extent of thyroid gland involvement and local tumor progression. Effective local and regional treatment was associated with a lower risk of metastasis. Radiation-induced hypothyroidism was suspected in 2 dogs 13 and 29 months after irradiation.—A. P. Théon et al (*J Am Vet Med Assoc* 2000;216:1775–1779).

#### **Development of glaucoma after cataract surgery in dogs: 220 cases (1987–1998)**

Transient postoperative ocular hypertension (POH) may develop in some dogs after cataract removal. In addition, glaucoma may develop weeks to months after cataract surgery in dogs. Retrospective record analysis of 220 dogs (346 eyes) that had cataract surgery from 1987 to 1998 revealed that of 346 eyes, 58

(16.8%) developed glaucoma. At 6 months, 32 of 206 (15.5%) eyes examined had glaucoma; at 12 months, 44 of 153 (28.8%) eyes examined had glaucoma. Median follow-up time was 5.8 months (range, 0.1 to 48 months). Eyes with hypermature cataracts were at a significantly higher risk for development of glaucoma after cataract surgery, compared with eyes with mature or immature cataracts. Mixed-breed dogs were at a significantly lower risk for glaucoma after cataract surgery, compared with dogs of other breeds. Eyes with intraocular lens (IOL) placement during cataract surgery were at a significantly lower risk for glaucoma, compared with eyes without IOL placement. After surgery, male dogs with IOL were at a significantly lower risk of developing glaucoma than male dogs without IOL or female dogs with IOL. Results of this study indicate that multiple factors probably contribute to the onset of glaucoma in dogs after cataract surgery.—D. J. Biros et al (*J Am Vet Med Assoc* 2000;216:1780–1786).

## EQUINE

### Risk factors for enterolithiasis among horses in Texas

A case-control study was conducted to identify risk factors for enterolithiasis among horses in Texas. Twenty-six horses with enteroliths were compared with 104 horses with other causes of colic that underwent surgery (52 horses, surgical control group) or were treated medically (52 horses, nonsurgical control group). Affected (ie, those with enteroliths) and control horses were compared by means of conditional logistic regression to identify factors associated with enterolithiasis. Horses that were fed alfalfa hay, spent  $\leq$  50% of time outdoors, or were Arabian or miniature breeds were at increased risk of developing enteroliths. Horses with enteroliths were more likely to have been hyperbilirubinemic and to have had clinical signs  $>$  12 hours prior to admission.

Breed and diet appear to influence the risk of enterolithiasis; other management factors also may influence development of enteroliths. Duration of clinical signs may be longer and signs may be less severe among horses with enteroliths, compared with horses with other causes of colic.—N. D. Cohen et al (*J Am Vet Med Assoc* 2000;216:1787–1794).

### Pythiosis with bone lesions in a pregnant mare

A 9-year-old pregnant mare was referred for evaluation of a nonhealing wound of 8 weeks' duration on the lateral aspect of the left forelimb. A soft tissue mass encircled the proximal two thirds of the metacarpus; radiography revealed a moderate periosteal reaction affecting metacarpal bone IV. Histologic and immunohistochemical examinations revealed eosinophilic granulomatous inflammation and *Pythium* sp in the soft tissues. The mare was treated for 12 days with antimicrobials, medicated wound dressings, debridement, and IV administration of sodium iodide; radiography revealed progression of the bone lesions. The mare was treated by regional arterial perfusion with miconazole and excision of affected soft tissues and the distal two thirds of

metacarpal bone IV. The mare recovered without complications and gave birth to a healthy foal.

Regional perfusion of antifungal agents provides high concentrations in soft and osseous tissues and permits use of low dosages of agents administered by other routes, which reduces cost, adverse effects, and teratogenic effects.—A. A. Worster et al (*J Am Vet Med Assoc* 2000;216:1795–1798).

### Arthroscopic removal of patellar fracture fragments in horses: five cases (1989–1998)

Patellar fractures in horses are uncommon and are often associated with use of the horse, rather than age or sex. Three approaches are useful in the treatment of patellar fractures, depending on the configuration and displacement of the fracture fragment: conservative management for nondisplaced fractures, arthrotomy for large fracture fragments, and arthroscopy for small or large fracture fragments. Thorough physical and radiographic examinations are essential in the diagnosis of patellar fractures. Arthroscopy is valuable for evaluation of the joint and ensures retrieval of small fracture fragments. Arthroscopy is also a useful approach to remove large fracture fragments of the medial aspect of the patella without performing arthrotomy.—G. P. Marble and K. E. Sullins (*J Am Vet Med Assoc* 2000;216:1799–1801).

## SWINE

### Lifetime reproductive and financial performance of female swine

Data concerning lifetime reproductive and financial performance for females removed from 25 commercial swine herds during a 5-year period were analyzed. Herds were grouped on the basis of pattern of removal of female swine. Lifetime reproductive performance was summarized as number of pigs weaned per herd day per mated female and as number of herd days per pig weaned per mated female. Financial data from a commercial database were used to estimate maximum number of parities at removal associated with profitability. Sensitivity analysis was used to simulate how variations in daily maintenance cost and value per weaned pig would influence profitability.

Mean number of pigs weaned per herd day per mated female was 0.054; mean number of herd days per pig weaned per mated female was 20.2. Both measures were associated with proportion of non-productive days during herd life, preweaning mortality rate per litter weaned, mean lifetime number of pigs born alive per litter weaned, and mean lifetime lactation duration. Herds characterized by the highest proportion of females that were parity 0 at the time of removal had a gross financial loss of approximately \$50.00/female. Maximum parity at time of removal associated with profitability ranged from 5 to 8. Daily maintenance costs per female had a greater impact on lifetime profitability than did value per weaned pig. Results suggest that lifetime reproductive and financial performance is better among swine herds that have higher proportions of high-parity females.—T. Lucia, Jr, et al (*J Am Vet Med Assoc* 2000;216:1802–1809).