

Interpretive Summaries

SMALL ANIMALS

Effects of lufenuron treatment in cats on the establishment and course of *Microsporium canis* infection following exposure to infected cats

Lufenuron suspension (133 mg/cat/mo, PO, or 40 mg/cat, SC, every 6 months) or a placebo was administered to juvenile cats (n = 8/group). After 4 months, cats were challenged by the introduction of cats with mild, experimentally induced *Microsporium canis* infection into the rooms where the lufenuron-treated and control cats were housed. Extent of any resulting infection was monitored over time.

All lufenuron-treated and control cats became infected with *M canis*, although cats treated with lufenuron had significantly lower infection scores during the early weeks following exposure. Once infections reached peak intensity, they resolved over similar periods in lufenuron-treated and control groups. Results suggested that under these conditions, lufenuron did not prevent development of dermatophytosis in cats following exposure to an infected cat, nor did it result in faster resolution once infection was established. The delay in establishment of infection may reflect an antifungal effect of lufenuron that is detectable, but not sufficient to prevent development of infection under these conditions.—D. J. DeBoer et al (*J Am Vet Med Assoc* 2003;222:1216–1220).

Comparison of results of three commercial heartworm antigen test kits in dogs with low heartworm burdens

Results of 3 commercial heartworm antigen tests performed on serum samples from dogs with low heartworm burdens were compared. Tests were performed by experienced veterinary technicians in private practice; serum samples were from dogs proven to have had 0 to 4 adult female heartworms. Results showed that all test kits were sensitive (78 to 84%), but all tests yielded some false-negative results, and there were significant differences among tests in regard to ability to detect low heartworm burdens. As expected, sensitivity increased for all test kits as number of female heartworms increased. All 3 test kits had high specificity (97%).—C. E. Atkins (*J Am Vet Med Assoc* 2003;222:1221–1223).

Clinical application of a polymerase chain reaction assay for diagnosis of leptospirosis in dogs

Urine samples were collected from 132 dogs with clinical signs compatible with leptospirosis and 13 healthy dogs or dogs with unrelated diseases; results of

the PCR assay were compared with the final diagnosis. A diagnosis of leptospirosis was confirmed if the dog had appropriate clinical signs and serologic titer \geq 1:400 or a 4-fold increase in convalescent titer. A diagnosis other than leptospirosis was made for 121 of 145 dogs. A diagnosis of leptospirosis was made in 8 dogs, and those dogs had positive results of PCR assay. A positive PCR assay result was obtained in 16 additional dogs that did not meet criteria for leptospirosis. In the 8 dogs that had a confirmed diagnosis of leptospirosis, serovars pomona (n = 3 dogs), grippotyphosa (2), canicola (2), and bratislava (1) were identified.—K. R. Harkin et al (*J Am Vet Med Assoc* 2003;222:1224–1229).

Comparison of polymerase chain reaction assay, bacteriologic culture, and serologic testing in assessment of prevalence of urinary shedding of leptospires in dogs

The purpose of the study was to use polymerase chain reaction (PCR) testing to evaluate prevalence of urinary shedding of leptospires in 500 dogs during a 6-month period, regardless of health status, and compare these results with those of serologic testing and bacteriologic culture. Titers \geq 1:100 to at least 1 serovar were detected in 104 (20.8%) dogs, and titers \geq 1:400 were detected in 41 (8.2%) dogs. High titers were detected most commonly to serovar grippotyphosa, followed by icterohemorrhagiae, canicola, pomona, bratislava, and hardjo. A positive PCR assay result was obtained in 41 (8.2%) dogs, only 9 (22%) of which were seropositive. Leptospires were not cultured from the urine of any dog. Only 4 dogs had clinical leptospirosis during the 6-month evaluation period. Overall disease prevalence was 0.8%. When compared with PCR assay in predicting shedding of leptospires in urine, serologic testing had a sensitivity of 22%, specificity of 79%, positive predictive value of 9%, and negative predictive value of 92%.—K. R. Harkin et al (*J Am Vet Med Assoc* 2003;222:1230–1233).

Association between lymph node size and metastasis in dogs with oral malignant melanoma: 100 cases (1987–2001)

Medical records of 100 dogs with oral malignant melanoma were reviewed to determine the association between lymph node size and metastasis to the lymph node. Sensitivity and specificity of lymph node size as a predictor of metastasis were 70 and 51%, respectively, and the positive and negative predictive values were 62 and 60%, respectively. Although a significant association was identified between lymph node size and

metastasis to the lymph node, this association did not appear strong enough to be clinically relevant. Results suggest that lymph node size alone is insufficient for accurate clinical staging of oral malignant melanoma in dogs, and cytologic or histologic examination should routinely be performed on specimens of regional lymph nodes, regardless of size, to determine metastasis to those nodes.—L. E. Williams and R. A. Packer (*J Am Vet Med Assoc* 2003;222:1234–1236).

Traumatic diaphragmatic hernia in cats: 34 cases (1991–2001)

Medical records of 34 cats treated by surgical correction of traumatic diaphragmatic hernias were reviewed. Mean age at surgery was 3.6 years. Duration of the hernia ranged from < 24 hours to > 3 months. Common clinical findings were tachypnea, dyspnea, and muffled heart sounds. During surgery, herniations of the liver, stomach, small intestine, and omentum were most often identified. Postoperative complications developed in 50% of cats. Mortality rate of cats before discharge from the hospital was 17.6%. Age and concurrent injury were significantly associated with mortality rate. Respiratory rate at the time of hospital admission was inversely associated with mortality rate. Training level of the surgeon, CBC and serum biochemical abnormalities, development of intraoperative episodes of hypotension or hypoxemia, administration of postoperative analgesics, duration of hernia, and hernia contents were not associated with mortality rate.—C. W. Schmiedt et al (*J Am Vet Med Assoc* 2003; 222:1237–1240).

EQUINE

West Nile Virus encephalomyelitis in horses: 46 cases (2001)

A retrospective study was undertaken to determine signalment, clinical findings, results of diagnostic testing, outcome, and postmortem findings in 46 horses with West Nile virus (WNV) encephalomyelitis diagnosed on the basis of clinical signs and results of serologic testing in 46 of 56 horses suspected of having the disease. Significantly more males than females were affected. High rectal temperature, weakness or ataxia, and muscle fasciculations were the most common clinical signs. Paresis was more common than ataxia, although both could be asymmetrical and multifocal. Treatment was supportive. Mortality rate was 30%, and 71% of recumbent horses were euthanized. One horse that had received 2 vaccinations for WNV developed the disease and was euthanized. Follow-up communications with 19 owners revealed that most horses had residual deficits at 1 month after release

from the hospital; abnormalities were resolved in all but 2 horses by 12 months after release.—M. B. Porter et al (*J Am Vet Med Assoc* 2003;222:1241–1247).

Ultrasonographic findings in horses with right dorsal colitis: five cases (2000–2001)

A retrospective study was performed to determine ultrasonographic abnormalities in 5 horses with right dorsal colitis. Mural thickness of the right dorsal colon, measured on ultrasonographic images, and the ratio of right dorsal colon-to-right ventral colon thickness was significantly greater for horses with right dorsal colitis than for healthy control horses. In affected horses, the right dorsal colon had a prominent hypoechoic layer corresponding to submucosal edema, inflammatory infiltrates, and granulation tissue that was not detected in healthy horses. Mural thickness decreased to normal in 1 horse that recovered following treatment but not in a second horse that was treated but did not improve clinically. Results suggest that ultrasonography may be useful in the diagnosis of right dorsal colitis in horses.—S. L. Jones et al (*J Am Vet Med Assoc* 2003;222: 1248–1251).

RUMINANTS

Evaluation of cattle for experimental infection with and transmission of *Brucella suis* biovar 4

Fifteen adult cattle were experimentally infected with *Brucella suis* biovar 4, the cause of rangeliferine brucellosis, and housed in contact with 15 uninfected cattle. There was no bacteriologic evidence of vertical or horizontal transmission to the uninfected cattle, and none of the cattle developed clinical signs of infection. The organism was recovered from tissue specimens from 4 cattle at the time of necropsy 7.6 months after inoculation. Results of an indirect ELISA for detection of *B abortus* infection in cattle were positive at least once during the study for all 15 inoculated cattle. However, results for buffered plate agglutination, standard tube agglutination, complement fixation, and brucellosis card tests were variable, and the latter 3 tests yielded negative results at all times for at least 1 of the 4 cows from which *B suis* biovar 4 was isolated at necropsy. Results suggest that cattle-to-cattle transmission of *B suis* biovar 4 is unlikely and that serologic tests for bovine brucellosis should be used cautiously when attempting to identify cattle with rangeliferine brucellosis, as they do not discriminate between the 2 diseases and vary in their ability to detect exposed cattle.—L. B. Forbes and S. V. Tessaro (*J Am Vet Med Assoc* 2003;222: 1252–1256).