

Interpretive Summaries

SMALL ANIMALS

Evaluation of the effect of cephalexin and enrofloxacin on clinical laboratory measurements of urine glucose in dogs

Six healthy adult female dogs were used to determine the effects of cephalexin and enrofloxacin on results of urine glucose tests as measured by 4 commercially available tests in dogs. In a crossover design, cephalexin or enrofloxacin was administered to dogs for 1 day. Urine samples were tested for glucose for 24 hours after drug administration. In vitro, dextrose was added to pooled glucose-negative canine urine samples containing either no antimicrobial or known concentrations of either antimicrobial; urine samples were then tested for glucose.

Two tests incorrectly measured glucose in urine containing antimicrobials in the in vivo and in vitro studies. In vivo, false-positive results were obtained with both antimicrobials by use of a tablet test and with cephalexin by use of a strip test. In vitro, false-positive results were obtained with a tablet test at a high concentration of cephalexin and with a strip test at a high concentration of enrofloxacin. Enrofloxacin in urine samples containing dextrose caused the urine glucose tests to underestimate urine glucose concentration.

Cephalexin and enrofloxacin at dosages used in clinical practice may result in false-positive or false-negative urine glucose results, and care should be taken when using urine as a basis for identifying or monitoring diabetic animals.—C. A. Rees and D. M. Boothe (*J Am Vet Med Assoc* 2004;224:1455–1458).

Prevalence and characteristics of pain in dogs and cats examined as outpatients at a veterinary teaching hospital

Information was obtained on 1,153 dogs and 652 cats to determine prevalence of pain among dogs and cats examined as outpatients at a veterinary teaching hospital and characteristics of pain in dogs and cats with evidence of pain. A questionnaire was administered to owners of all dogs and cats. For dogs and cats with evidence of pain, the cause, signs, anatomic location, type (superficial somatic, deep somatic, or visceral), duration, and severity of the pain and the principle mechanism (inflammatory, neuropathic, both, or unknown) responsible for the pain were determined on the basis of questionnaire responses and results of physical examination.

Two hundred thirty-one (15%) dogs and 92 (14%) cats had evidence of pain. Dogs with evidence of pain

were significantly older and heavier than dogs without. Cats with evidence of pain were significantly older than cats without. In most dogs and cats with evidence of pain, the pain was determined to be of short duration (< 7 days), of mild or moderate severity, somatic, associated with primary hyperalgesia, and inflammatory. Analgesic drugs were frequently administered to dogs with chronic pain, but were not always considered effective.—W. W. Muir III et al (*J Am Vet Med Assoc* 2004;224:1459–1463).

Cardiogenic hypertrophic osteopathy in a dog with a right-to-left shunting patent ductus arteriosus

A 5-year-old castrated male Shetland Sheepdog was examined because of progressive bilateral hind limb thickening. Cyanosis of the preputial mucous membranes was evident, whereas the oral mucous membranes had a normal color. A well-structured, palisade-like periosteal reaction with no underlying bone destruction was evident on radiographs of the hind limbs. The radiographic changes were consistent with hypertrophic osteopathy (HO). Severe right-sided cardiomegaly was seen on thoracic radiographs, and a diagnosis of patent ductus arteriosus with right-to-left shunting was made by means of echocardiography and contrast echoangiography. The cyanotic heart disease was believed to be the cause of the HO. Hypertrophic osteopathy has been associated with a number of diseases in animals and humans. In humans, congenital heart defects that cause cyanosis are among the most common causes of HO.—T. P. Anderson et al (*J Am Vet Med Assoc* 2004;24:1464–1466).

Ultrasonographic diagnosis of septic arthritis secondary to porcupine quill migration in a dog

A 7-year-old castrated male German Shepherd Dog was evaluated for lethargy, icterus, and sepsis. Porcupine quills had been removed from the dog's face 1 month prior to examination; progressive right forelimb lameness had developed soon after removal of the quills. Septic arthritis of the right elbow joint was diagnosed and was unresponsive to antimicrobial and anti-inflammatory treatments. At the time of referral, the dog had developed endocarditis, septicemia, and disseminated intravascular coagulation. Via ultrasonography, a foreign body consistent with a porcupine quill was detected in the medial portion of the right

humero-radial joint. The dog did not respond to initial supportive treatment and died as a result of cardiac arrest. Postmortem examination confirmed the presence of a quill in the medial compartment of the right elbow joint and severe acute endocarditis with septic emboli to the kidneys and spleen. Ultrasonographic examination should be considered as a diagnostic tool when septic arthritis secondary to a foreign body is suspected in dogs.—B. A. Brisson et al (*J Am Vet Med Assoc* 2004;224:1467–1470).

Retroperitoneal sarcomas in dogs: 14 cases (1992–2002)

Retroperitoneal sarcomas were retrospectively evaluated in 14 dogs. Most dogs had high-grade hemangiosarcoma. Surgical resection was often complicated by diffuse involvement of the paravertebral muscles or invasion into adjacent structures. The biological behavior of these tumors was aggressive with a high metastatic rate and poor survival time. In humans, the most common types of retroperitoneal sarcomas are liposarcomas and leiomyosarcomas and, compared with dogs with retroperitoneal sarcomas, these tumors have a high local recurrence rate and low metastatic rate. Investigation of adjunctive modalities to surgery in dogs with retroperitoneal sarcomas, such as chemotherapy and radiation therapy, is warranted because of the differences in tumor type, biological behavior, and resectability of retroperitoneal sarcomas in dogs and humans.—J. M. Liptak et al (*J Am Vet Med Assoc* 2004;224:1471–1477).

Surgical reduction and stabilization for repair of femoral capital physal fractures in cats: 13 cases (1998–2002)

Medical records and radiographs of cats with unilateral or bilateral femoral capital physal fractures evaluated from 1998 to 2002 were reviewed. Thirteen cats (3 spayed females, 8 castrated males, and 2 sexually intact males) with 16 capital physal fractures were identified. Ages of the cats ranged from 3 to 40 months. Fracture reduction; placement of Kirschner wires; severity of lameness before and 1, 2, 4, 6, and 8 weeks after surgery; and the degree of degenerative joint disease of the hip joint and lysis of the femoral head and neck observed after surgery were evaluated. Results indicated that there was significant improvement in the severity of clinical lameness scores with no substantial lysis of the femoral head and neck or degenerative joint disease of the hip joint with internal fixation of femoral capital physal fractures with placement of Kirschner wires.—H. R. Fischer et al (*J Am Vet Med Assoc* 2004;224:1478–1482).

EQUINE

Radiotherapy of a recurrent ossifying fibroma in the paranasal sinuses of a horse

A 7-year-old female Thoroughbred was admitted with a history of labored breathing, stridor, and exercise intolerance. Examination revealed a mass in the left paranasal sinuses that was determined to be an ossifying fibroma. Initial treatment consisted of surgical removal of the mass alone; however, the mass recurred 9 months after surgery. The mass was again removed, and adjunctive radiotherapy consisting of 3,000 cGy of cobalt radiation was administered. This time, the tumor did not recur for > 6 years. A third surgery was performed to remove the mass, and adjunctive radiotherapy consisting of 4,000 cGy of photon beam radiation from a linear accelerator was administered. The mass did not recur during the subsequent 3 years.

Ossifying fibromas are uncommon tumors that frequently recur if incompletely excised. Results in this horse suggest that adjunctive radiotherapy may delay or prevent tumor recurrence in affected horses.—J. A. Orsini et al (*J Am Vet Med Assoc* 2004;224:1483–1486).

RUMINANTS

Risk factors for umbilical hernia in Holstein heifers during the first two months after birth

A case-control study was performed to determine risk factors associated with identification of an umbilical hernia during the first 2 months after birth in Holstein heifers. Information on sire, whether the dam had a history of umbilical hernia, milk yield, duration of gestation, whether the dam had a history of dystocia, whether the heifer had a twin, birth weight, total serum protein concentration, and whether the heifer had an umbilical infection was obtained for 322 Holstein heifers born in a single herd (45 with an umbilical hernia and 277 without).

Logistic regression analysis indicated that heifers born to sires with ≥ 3 progeny with an umbilical hernia were 2.31 times as likely to develop an umbilical hernia as were heifers born to sires with ≤ 2 progeny with an umbilical hernia. Heifers with umbilical infection were 5.65 times as likely to develop an umbilical hernia as were heifers without umbilical infection. Attributable proportion analysis indicated that the frequency of umbilical hernias in Holstein heifers with umbilical infection would have been reduced by 82% if umbilical infection had been prevented.—C. Steenholdt and J. Hernandez (*J Am Vet Med Assoc* 2004;224:1487–1490).