

Interpretive Summaries

SMALL ANIMALS

World Wide Web-based survey of vaccination practices, postvaccinal reactions, and vaccine site-associated sarcomas in cats

A prospective Web-based epidemiologic study was performed to quantify the incidence of vaccination practices, vaccine site-associated sarcomas, and postvaccinal reactions in cats. Data were collected from the United States and Canada from Jan 1, 1998 to Dec 31, 2000, which permitted a 1- to 3-year follow-up of vaccinated cats. Participants reported administering 61,747 doses of vaccine to 31,671 cats, observing postvaccinal inflammatory reactions in 73 cats (11.8 reactions/10,000 vaccine doses), and diagnosing 2 qualifying vaccine site-associated sarcomas (0.63 sarcomas/10,000 cats; 0.32 sarcomas/10,000 doses of all vaccines administered).

These findings indicate that the incidence of vaccine-associated problems is not increasing. The best means of reducing the incidence of vaccine site-associated sarcomas is thoughtful consideration of the relative risks and benefits of specific vaccines on an individual cat basis. Additionally, our findings should dissuade veterinarians from reflexively removing vaccine site-associated granulomas, which are unlikely to become sarcomas.—G. M. Gobar and P. H. Kass (*J Am Vet Med Assoc* 2002;220:1477–1482).

Diagnostic comparison of needle and wedge biopsy specimens of the liver in dogs and cats

We prospectively compared definitive diagnoses rendered by 3 independent examiners following examination of two 18-gauge needle biopsy specimens from 124 dogs and cats with diagnoses assigned on the basis of examination of a paired wedge biopsy specimen. Physical characteristics of needle (length, width, surface area, degree of fragmentation, and number of portal triads) and wedge (surface area) biopsy specimens were determined.

For dogs and cats, the median number of portal triads per needle biopsy specimen was 4; needle biopsy specimens from dogs were significantly longer than specimens from cats. Differences in physical characteristics of biopsy specimens did not significantly influence diagnostic concordance. For individual examiners, the morphologic diagnosis assigned to needle biopsy specimens agreed with the morphologic diagnosis assigned to wedge biopsy specimens for 56 and 67% of the specimens. All 3

examiners agreed on the morphologic diagnosis assigned to needle and wedge biopsy specimens for 44 and 65% of the specimens, respectively. Morphologic diagnoses assigned to needle biopsy specimens concurred with diagnoses assigned to wedge biopsy specimens in 59 of 124 (48%) animals. A diagnosis of hepatic disease (false-positive result) was assigned to needle biopsy specimens from 10 of 33 animals in which examination of wedge biopsy specimens suggested that the liver was normal.

Results suggest that in dogs and cats, histologic examination of two 18-gauge needle biopsy specimens of the liver can generate morphologic diagnoses divergent from diagnoses assigned on the basis of histologic examination of wedge biopsy specimens from the same liver lobe. This discordance may compromise appropriate patient management.—T. L. Cole et al (*J Am Vet Med Assoc* 2002;220:1483–1490).

Use of the anesthetic combination of tiletamine, zolazepam, ketamine, and xylazine for neutering feral cats

Trap-neuter-return programs have become a popular nonlethal alternative for the control of feral cat populations. The anesthetic used is an integral component of these programs. In this study, we evaluated the use of tiletamine, zolazepam, ketamine, and xylazine (TKX) as an IM anesthetic combination for large-scale feral cat neutering programs. A total of 7,502 cats were brought in to feral cat clinics operating at the Colleges of Veterinary Medicine at North Carolina State University and the University of Florida between July 1996 and August 2000. Of those cats for which dosing records were complete, nearly 80% of cats received only a single dose of TKX. The overall mortality rate was 0.35% (26/7,502), and the mortality rate attributable to unknown causes (potential anesthetic deaths) was 0.23% (17/7,502). Our results suggest that the use of TKX at large-scale neutering clinics has several benefits, including small volume administration, predictable anesthetic quality and duration, low cost, and low mortality rate in feral cats.—L. S. Williams et al (*J Am Vet Med Assoc* 2002;220:1491–1495).

Use of intermittent bladder infusion with clotrimazole for treatment of candiduria in a dog

A 14-year-old 4.3-kg (9.5-lb) spayed female Miniature Poodle was evaluated for frequent urination and a mucoid vaginal discharge filled with tiny yellow granules. Urinalysis revealed a large number of

oval budding yeast organisms that were identified via fungal culture as *Candida albicans*. The dog was treated for 3 weeks with orally administered fluconazole, which did not eliminate the candiduria. The dog was then treated for 3 weeks with orally administered terbinafine hydrochloride followed by orally administered flucytosine for 5 weeks, neither of which was successful in resolving the candiduria. Clotrimazole was infused directly into the urinary bladder via ultrasonographically guided cystocentesis intermittently for 4 treatments. Clinical signs of urinary tract infection resolved after the second treatment, and after the final treatment there was successful elimination of the *C albicans*. Intermittent bladder infusion with an antifungal drug may offer an alternative to orally administered medication to treat a fungal urinary tract infection.—Z. A. Forward et al (*J Am Vet Med Assoc* 2002;220:1496–1498).

Risk factors associated with development of seizures after use of iohexol for myelography in dogs: 182 cases (1998)

Complications associated with intrathecal injection of iohexol include seizures and worsening of neurologic signs. To determine prevalence of seizures after myelography and identify associated risk factors, medical records of 182 dogs that received iohexol for myelography were reviewed. At least 1 generalized seizure occurred in 21.4% of dogs after or during myelography. Significant risk factors for development of seizures after myelography included cerebellomedullary injection, use of a large volume of contrast agent, and weight > 20 kg (44 lb). Dogs that received cerebellomedullary injections were 6.9 times as likely to have a seizure as those that received lumbar injections. Likewise, for each 5-ml increase in iohexol volume, the likelihood of a seizure increased by 30%.

To minimize the risk of postmyelographic seizures, it is preferential to administer iohexol via the L5-6 intervertebral space. Increased prevalence of seizures in large dogs may be caused by administration of larger total volumes of contrast medium.—G. Barone et al (*J Am Vet Med Assoc* 2002;220:1499–1502).

EQUINE

Hand-assisted laparoscopic technique for removal of ovarian tumors in standing mares

Ovarian neoplasms are the most common indication for ovariectomy in horses, and affected ovaries may be quite large. Traditional techniques for removing ovaries are associated with certain complications, and laparoscopic techniques have advantages. We evaluated a hand-assisted laparoscopic technique for removal of large granulosa-theca cell tumors in standing mares.

Local anesthesia of the mesovarium and accurate use of a stapling device and laparoscopic scissors were facilitated by inserting a hand in the abdomen. Various

methods were used to remove the large ovary from the abdomen. The technique was evaluated in 10 mares. Six mares had incisional drainage after surgery, and 2 mares had partial skin dehiscence; all incisions healed without severe scarring. Hand-assisted laparoscopy was efficacious for removal of large ovaries in standing mares.—D. H. Rodgerson et al (*J Am Vet Med Assoc* 2002;220:1503–1507).

Biceps brachii tenotomy or tenectomy for the treatment of bicipital bursitis, tendonitis, and humeral osteitis in 3 horses

Clinical findings of 3 adult horses with bicipital bursitis, tendonitis of the biceps brachii, and osteitis of the tubercles of the humerus were determined. All horses had a chronic, grade IV/V forelimb lameness, a dropped elbow, and partially flexed carpal and metacarpophalangeal joints. Lameness was characterized by unwillingness of the horses to fully extend the affected limb, a decreased cranial phase to the stride, and signs of pain associated with palpation, flexion, and extension of the shoulder joint. The disease was associated with sepsis in 2 horses and mineralization of the biceps tendon in 1 horse. All horses were treated by complete transection or resection of the biceps brachii tendon. All horses improved immediately after surgery and became sound at the walk. Two horses returned to successful athletic careers (barrel racing, show jumping), whereas the other is a sound brood mare. Biceps brachii tenotomy or tenectomy is a viable surgical option for the treatment of horses with combined bursitis, tendonitis, and osteitis of the shoulder.—M. N. Fugaro and S. B. Adams (*J Am Vet Med Assoc* 2002;220:1508–1511).

Congestive heart failure in horses: 14 cases (1984–2001)

Medical records of 14 horses with congestive heart failure were reviewed to identify clinical signs, underlying cardiac conditions, echocardiographic findings, and prognosis. All 14 horses were examined because of a heart murmur; tachycardia was identified in all 14. Twelve horses had echocardiographic evidence of enlargement of 1 or more chambers of the heart. Other common clinical findings included jugular distention or pulsation, crackles, cough, tachypnea, and ventral edema. Nine horses had had signs consistent with heart failure for > 6 days. Underlying causes for heart failure included congenital defects, traumatic vascular rupture, pericarditis, pulmonary hypertension secondary to heaves, and valvular dysplasia. Seven horses were euthanized after diagnosis of heart failure; 5 were discharged but were euthanized or died of complications of heart disease within 1 year after discharge. The remaining 2 horses were discharged but lost to follow-up. Results suggest that congestive heart failure is rare in horses. Echocardiography was useful in determining the underlying cause in affected horses, but the long-term prognosis for affected horses was grave.—J. L. Davis et al (*J Am Vet Med Assoc* 2002;220:1512–1515).

Cardiopulmonary effects of a medetomidine-ketamine combination administered intravenously in gopher tortoises

The cardiopulmonary effects of a medetomidine-ketamine combination for anesthesia in gopher tortoises were evaluated. Heart rate, direct carotid arterial blood pressure, and body temperature were measured before and every 5 minutes for 45 minutes after IV injection of medetomidine (100 $\mu\text{g}/\text{kg}$ [45.5 $\mu\text{g}/\text{lb}$]) and ketamine (5 mg/kg [2.3 mg/lb]). Carotid arterial blood samples were collected before and 5, 15, 30, and 45 minutes after administration of

medetomidine-ketamine to determine pH, PO_2 , and PCO_2 . Atipamezole (500 $\mu\text{g}/\text{kg}$ [227 $\mu\text{g}/\text{lb}$], IV) was administered 30 minutes after administration of medetomidine-ketamine. The medetomidine-ketamine combination induced a moderate and transient increase in arterial blood pressure and moderate hypercapnia and hypoxemia. Intravenous administration of atipamezole rapidly induced severe hypotension. This drug combination causes effective short-term immobilization adequate for minor diagnostic procedures in gopher tortoises. This combination also causes moderate hypoventilation and thus may warrant supplemental oxygen or assisted ventilation.—P. M. Dennis and D. J. Heard (*J Am Vet Med Assoc* 2002; 220:1516–1519).