Canine and Feline Parvovirus Infection—Current Treatment Options

Katrin Hartmann, DrVetMed, DrVetMedHabil, Diplomate ECVIM-CA, Ludwig Maximilians University, Munich, Germany

Parvovirus infection can cause severe disease in dogs and cats. When disease is suspected, patients should be isolated and given intensive care. Even with intensive care, however, overall mortality in cats is about 50%; in dogs, survival is more likely, with a 90% survival rate if they are given appropriate treatment. Restoring fluid and electrolyte losses is the most important aspect of treatment. Feeding should be restarted as soon as possible, preferably with a highly digestible food. Antiemetics may be helpful, but drugs that alter gut motility should be avoided because they increase risk for intussusception. Hypoproteinemia is common, especially in dogs, and plasma or whole blood transfusions may be needed to restore oncotic pressure. The gut barrier is often destroyed in these patients, and intestinal bacteria may easily translocate into the bloodstream. An antibiotic with good efficacy against gram-negative organisms is recommended. Cytokines, such as human granulocyte colony-stimulating factor, have been suggested, but studies do not support their use at this time. In many European countries and Japan, feline interferon has been licensed for treatment of both dogs and cats but thus far has been shown to be helpful for parvoviral infection only in dogs. Hyperimmune serum is commercially available in some European countries but hyperimmune/immune sera can be prepared in veterinary practices that can aseptically harvest serum. It can be given by either the subcutaneous or intraperitoneal route.

COMMENTARY: Both canine parvovirus and feline panleukopenia virus (feline parvovirus) can be devastating and are more likely to occur in young animals. Vaccination is the key to decreasing risk for disease, but primarily because of maternal antibodies, vaccination breaks do occur. This presentation reviews the treatment options that are necessary for a good outcome in infected dogs and cats.—Patricia Thomblison, DVM, MS

Diagnosis of Systemic Hypertension

Scott A. Brown, VMD, PhD, Diplomate ACVIM, University of Georgia

Systemic hypertension in veterinary medicine can occur in both dogs and cats. It may be seen in animals with chronic renal failure as well as those with neurologic, endocrine, and cardiac disease. Evidence of hypertensive injury includes hemorrhage within the retina, vitreous, or anterior chamber; retinal detachment and atrophy; retinal edema and vascular tortuosity; and glaucoma. Left ventricular hypertrophy may also be seen. Tachycardia is uncommon unless the hypertension is associated with such diseases as feline hyperthyroidism. Definitive diagnosis is made by determination of systemic arterial blood pressure. Direct blood pressure measurements are not practical in veterinary medicine, and indirect or “cuff” measurements are commonly used. It is important to use a cuff appropriate to the size of the animal or abnormal results will be obtained. The ideal cuff should be 30% to 40% of the limb circumference. Blood pressure levels are based on risk for future target organ damage (< 150 mm Hg minimal, 150 to 159 mm Hg mild, 160 to 189 mm Hg moderate, > 180 mm Hg severe). Acute onset of blindness is one of the most common presentations of severely hypertensive animals. Other signs include seizures, head tilt, and depression. Animals presenting with blindness, hyphema, seizures, ataxia or collapse, or labored breathing or those at risk for hypertension due to an associated disease (chronic renal failure, hyperthyroidism, obesity, hyperadrenocorticism, diabetes mellitus, mineralocorticoid-secreting tumors, or pheochromocytoma) should be screened.

COMMENTARY: This manuscript makes the point that hypertension is an emerging disease and may be more important in cats (most important vascular disease and cardiovascular disease in cats older than 12 years of age) than in dogs and that varying target organs are at risk, but some are more vulnerable than others. The author concisely demonstrates how blood pressure is measured in veterinary patients and how it can be difficult due to technical limitations as well as anxiety-induced hypertension resulting simply from the measuring process. An excellent point is made that blood pressure measurement in veterinary patients should not be indiscriminant to avoid high numbers of false-positive diagnoses. Finally, it is important to emphasize that hypertension may be idiopathic and, when diagnosed early (whether idiopathic or secondary), gives the veterinarian an opportunity to slow progression of renal disease (and disease of other target organs)—a syndrome that is fatal to a great number of older feline pets.—Clarke E. Atkins, DVM, Diplomate ACVIM (Internal Medicine/Cardiology)

CONTINUES