

## New Treatment for Canine Parvovirus?

Canine parvovirus (CPV) is a devastating disease; left untreated, the mortality rate is >90%, and the high cost of aggressive treatment and prolonged hospitalization may lead to humane euthanasia. Signs of CPV infection include severe dehydration, disseminated intravascular coagulation (DIC), and bacterial translocation with sepsis. Many treatments to help decrease hospital time have been investigated, but none has led to substantial improvements in outcome. One proposed treatment is the use of passive immunotherapy with CPV-immune plasma from patients with high titers of anti-CPV antibodies. Antibodies would theoretically neutralize free virus in plasma, impede viral spread, and suppress release of new infectious virions.

This clinical trial compared neutrophil and monocyte counts, magnitude of viremia, percentage weight change, num-

ber of hospitalization days, and cost of treatment between patients treated with CPV-immune plasma ( $n = 7$ ) and a placebo group ( $n = 7$ ). The results suggested no benefit in offering 12 mL of CPV-immune plasma to patients within 24 hours of onset of signs. Failure to detect effects may have resulted from the small sample size or lack of recommendations as to effective dosing of CPV-immune plasma; the dose administered may have been too low to effectively neutralize CPV in the circulation or tissues.

### Commentary

This study did not show clinical improvement by common measures (blood work, days of hospitalization), but it did highlight several key points in the rationale for treating a patient with immunotherapy, such as its effectiveness in other diseases (tetanus, *Clostridium difficile*

infections). Documentation of immunotherapy in other cases of viral infections was not mentioned. CPV-immune plasma may offer other therapeutic effects at proper doses, as plasma is used to treat DIC secondary to severe CPV infection and does offer potentially beneficial antiinflammatory properties. Before this therapy can be considered ineffective, more studies with larger numbers of dogs or dosing variables (onset of administration, dose, frequency) or in vitro studies documenting viral neutralization from immunotherapy are warranted.—*Heather Troyer, DVM, DABVP, CVA*

### Source

Clinical evaluation of a single dose of immune plasma for treatment of canine parvovirus infection. Bragg RF, Duffy AL, DeCecco FA, et al. *JAVMA* 240:700-704, 2012.

## Obstructive Urinary Tract Disease

Bilateral hydronephrosis and hydroureter was diagnosed in a 5-year-old pug presented for chronic hematuria and recurrent urinary tract infections. Diagnosis was confirmed by excretory urography, ultrasonography, and excretory CT urography after treatment for pyelonephritis failed to resolve clinical signs. The stenosis, present at the ureteropelvic junction of each ureter, was believed to be a congenital abnormality. Bilateral ureteral stents were placed via fluoroscopic guidance using a rigid cystoscope. Over the next 45 weeks, there was continuing improvement in clinical signs. Twelve months following the procedure clinical signs (dysuria, hematuria) had resolved.

### Commentary

Diagnosis and treatment of obstructive diseases of the urinary tract are a frequent and arduous challenge for practitioners and surgeons. Traditional surgical techniques can yield inconsistent results and have been associated with high patient morbidity and mortality. Ureteral stenting has revolutionized the management of obstructive ureteral disorders caused by calculi, strictures, or tumors in dogs and cats.<sup>1</sup> This case report described a novel interventional endo-urologic treatment approach to ameliorate a rare case of bilateral ureteral stenosis, presumed to be congenital. Minimally invasive interventional diagnostic and therapeutic approaches for urinary tract

disease hold promise for improved patient management. Main limitations include limited availability restricted to isolated referral surgical centers and objective assessment of the long-term outcome.—*Jason Bleedorn, DVM, DACVS*

### Source

Endoscopic placement of ureteral stents for treatment of congenital bilateral ureteral stenosis in a dog. Lam NK, Berent AC, Weisse CW, et al. *JAVMA* 240:983-990, 2012.

1. Ureteral obstructions in dogs and cats: A review of traditional and new interventional diagnostic and therapeutic options. Berent AC. *JVECC* 21:86-103, 2011.

CONTINUES