

Seizure Control in Dogs

Approximately 20% to 30% of epileptic dogs do not have satisfactory seizure control. The antiepileptic drug levetiracetam (LEV) was evaluated in 34 client-owned dogs with idiopathic epilepsy resistant to treatment with phenobarbital and bromide. LEV was administered at 20 mg/kg PO q8h in addition to current antiepileptic medications. Each dog underwent 2 16-week treatment periods (drug and placebo), with a 4-week washout period between treatments. Twenty-two dogs completed the study; 6 died or were euthanized, including 4 deaths caused by uncontrolled seizures. There was no significant difference of weekly seizure frequency compared with placebo. Owners reported ataxia, restlessness, anorexia, and vomiting as common side effects; 57% of LEV dogs and 43% of placebo dogs experienced an adverse event. There were no changes in CBCs, serum biochemistry profiles, urinalyses, or mean serum phenobarbital and bromide concentrations when LEV was administered compared with placebo.



Owners reported increased quality of life with LEV, although no increased efficacy was noted over placebo.

■ Commentary

This study emphasized the importance of randomized, placebo-controlled, double-blinded, crossover studies for evaluating new seizure medications and that open-labeled trials may overestimate treatment efficacy. The significant decrease in weekly seizure frequency, regardless of treatment order, reflects the placebo effect, something that open-label trials do not consider. This study failed to demonstrate the efficacy of LEV over placebo as add-on therapy in dogs with refractory epilepsy. It also illustrated the danger of extrapolating data from human studies to dogs, more specifically the therapeutic range for LEV, which has not been established in humans. As in humans, there was no association between LEV and response to treatment.—*Helena Rylander, DVM, DACVIM (Neurology)*

■ ■ Source

Evaluation of levetiracetam as adjunctive treatment for refractory canine epilepsy: A randomized, placebo-controlled, crossover trial. Muñana KR, Thomas WB, Inzana KD, et al. *J VET INTERN MED* 26:341-348, 2012.

Why Try Vacuum-Assisted Closure?

Treating septic peritonitis is challenging; even with aggressive therapy, mortality rates are 11% to 48% in veterinary patients. Treatment requires intensive supportive care, including postoperative drainage. The most effective form of drainage has not been established but may include closed suction drains, open peritoneal drainage, Penrose sump drains, and primary closure, followed by a planned second laparotomy for further debridement and lavage. Negative-pressure dressings have been successfully used in wound management in both human and veterinary studies. In humans, a significant reduction in morbidity and mortality has been associated with vacuum-assisted closure (VAC) compared with open abdominal techniques. This pilot study described the surgical technique, postoperative monitoring, and complications encountered with VAC for septic peritonitis in dogs ($n = 6$). Diagnosis of septic peritonitis was made by identifying intracellular bacteria in analysis of abdominal fluid and/or biochemical analysis of abdominal fluid and peripheral blood consistent with peritonitis. After appropriate surgery dictated by the primary disease process, VAC was performed. Three of the 6 dogs survived to discharge; there were no major postoperative complications with the VAC bandage for the 3 that

survived to discharge. VAC could be a feasible technique for managing septic peritonitis; however, more studies are needed.

■ Commentary

I am an advocate for VAC in treating difficult, nonabdominal wounds in dogs; however, I do not use VAC drains and/or open drainage in the abdomen given the risk for nosocomial infections and severe protein loss. An article reported these risks using a postceliotomy model with peritoneal drainage.¹ In the study described here, the 3 animals that arrested had preoperative albumin levels <1.7 compared with the 3 surviving animals that had preoperative albumin levels >2.0 ; this likely contributed to the mortality. VAC in septic peritonitis may not be appropriate with severe hypoproteinemia.—*Nathan Rose, DVM, DACVS*

■ ■ Source

The use of vacuum-assisted closure in the management of septic peritonitis in six dogs. Buote NJ, Havig ME. *JAAHA* 48:164-171, 2012.

1. **Evaluation of postceliotomy peritoneal drain fluid volume, cytology, and blood-to-peritoneal fluid lactate and glucose differences in normal dogs.** Szabo SD, Jermyn K, Neel J, Mathews KG. *Vet Surg* 40:444-449, 2011.