Hemorrhagic Gastroenteritis (HGE): A Cause of Bloody Diarrhea

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Hemorrhagic gastroenteritis or HGE is a very serious condition affecting dogs. HGE is characterized by a rapid onset of hemorrhagic (bloody) diarrhea in an otherwise normal, healthy dog. Hemorrhagic gastroenteritis can affect dogs of any breed, gender or age although younger (2-4 year old) toy and miniature breeds appear to be predisposed; stress and hyperactivity in these breeds may play a role in this syndrome. In addition, an overgrowth of the bacterium *Clostridium perfringens* and the toxins produced by this organism have been implicated. The actual etiology of this syndrome is unproven and unknown.

What are the clinical signs of HGE in dogs?
Dogs affected with HGE will often have:

- A sudden onset of profuse, bloody diarrhea with a foul odor
- Vomiting
- A loss of appetite
- Depression
- Acute abdominal pain
- Dehydration

HGE in dogs can occur very rapidly. HGE is not contagious and can occur without a change in the dog's diet, environment, or routine. A fever with HGE is uncommon.

How is HGE in dogs diagnosed?
The diagnosis of HGE is based on the dog's clinical signs (especially sudden onset of bloody diarrhea) accompanied with an increased packed-cell volume (PCV) - usually greater than 60%. PCV, also called the 'hematocrit', is determined by measuring the percentage of red-blood cells (RBCs) in the dog's blood. With HGE, the lining of the intestine becomes "leaky" allowing the proteins in the blood (plasma proteins) and blood electrolytes to leak out of the bloodstream into the intestine while not allowing the larger RBCs to leak out. Therefore, the PCV increases while the plasma protein level decreases. Radiographs are generally unremarkable but may help rule-out other potential illnesses. A positive culture for C. perfringens may also help diagnose HGE.

> An elevated PCV, with no decrease in the dog's white blood cells and the absence of a fever helps to distinguish hemorrhagic gastroenteritis from canine parvovirus.

How is HGE in dogs treated?
Because of the bloody diarrhea, rapid intravenous fluid replacement is essential in the treatment of dogs with HGE. In addition, antibiotics may be needed to combat a possible *C. perfringens* infection or other bacterial infection. Transfusions of plasma may be required if the dog has very low plasma protein levels. Food and water should be withheld for 1-2 days and re-introduced slowly as the vomiting diminishes and the dog returns to health. Antiemetics (drugs to decrease vomiting) may be indicated. The dog usually must be hospitalized for several days.

What is the prognosis for dogs with HGE?
The prognosis for dogs with hemorrhagic gastroenteritis is good if this condition is discovered early and the bloody diarrhea is treated aggressively with replacement intravenous fluids and other appropriate supportive care.

There are other disease conditions that exhibit similar symptoms to HGE. Canine parvovirus, a gastrointestinal foreign body, an intestinal intussusception or an intestinal volvulus (twisting of the intestines) may cause similar symptoms and should be considered if the dog doesn't respond to therapy for HGE in 24-48 hours.

> The mortality rate with HGE is low if diagnosed rapidly and treated aggressively with I.V. fluids.

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