

**Editorial****Parvo: Canine Enemy No. 1****Mohsin Masud Jan**

Editor

Today, we'll digress from our usual routine of topics and exit the human world to delve into the world of man's best friend. Records show that dogs are the first ever domesticated animals. And over these thousands of years of human canine partnership, seldom has there been an occasion when dogs have been needed to be protected by humans, but alas, along came Parvovirus.

Now, a little background, what exactly is Parvo? Canine parvovirus type 2 (CPV2, colloquially parvo) is a contagious virus mainly affecting dogs, and is thought to originate in cats. The current consensus is that the feline panleukopenia mutated into CPV2. Parvo is highly contagious and is spread from dog to dog by direct or indirect contact with their feces. Vaccines can prevent this infection, but mortality can reach 91% in untreated cases. Treatment often involves veterinary hospitalization. Canine parvovirus may infect other mammals; however, it does not infect humans. The major symptoms associated with the intestinal form of a canine parvovirus infection include severe, bloody diarrhea, lethargy, anorexia, fever, vomiting, and severe weight loss. The intestinal form of CPV affects the body's ability to absorb nutrients, and an affected animal will quickly become dehydrated and weak from lack of protein and fluid absorption. The wet tissue of the mouth and eyes may become noticeably red and the heart may beat too rapidly. On abdominal examination, the dog may respond with pain or discomfort. Dogs that have contracted CPV may also have a low body temperature (hypothermia), rather than a fever.

The timely diagnosis of parvo can make all the difference between life and death for a pup. Diagnosis is made by the following methods: physical examination, biochemical tests, urine analysis, abdominal radiographs, and abdominal ultrasounds. A chemical blood profile and a complete blood cell count will also be performed. Low white blood cell levels are indicative of CPV infection, especially in association with bloody stools. Biochemical and urine analysis may reveal elevated liver enzymes, lymphopenia, and electrolyte imbalances. Abdominal radiograph imaging may show intestinal obstruction, while an abdominal ultrasound may reveal enlarged lymph nodes in the groin, or throughout the body, and fluid-filled intestinal segments.

Treatment usually involves extensive hospitalization, due to the severe dehydration and damage to the intestines and bone marrow. A CPV test should be

given as early as possible if CPV is suspected in order to begin early treatment and increase survival rate if the disease is found. Treatment ideally also consists of crystalloid IV fluids and/or colloids (e.g., Hetastarch), antinausea injections (antiemetics) such as maropitant, metoclopramide, dolasetron, ondansetron and prochlorperazine, and broad-spectrum antibiotic injections such as cefazolin/enrofloxacin, ampicillin/enrofloxacin, metronidazole, timentin, or enrofloxacin.<sup>[5]</sup> IV fluids are administered and anti nausea and antibiotic injections are given subcutaneously, intramuscularly, or intravenously. The fluids are typically a mix of a sterile, balanced electrolyte solution, with an appropriate amount of B-complex vitamins, dextrose and potassium chloride. Analgesic medications can be used to counteract the intestinal discomfort caused by frequent bouts of diarrhea; however, the use of opioid analgesics can result in secondary ileus and decreased motility. In addition to fluids given to achieve adequate rehydration, each time the puppy vomits or has diarrhea in a significant quantity, an equal amount of fluid is administered intravenously. The fluid requirements of a patient are determined by the animal's body weight, weight changes over time, degree of dehydration at presentation and surface area.

Once the dog can keep fluids down, the IV fluids are gradually discontinued, and very bland food slowly introduced. Oral antibiotics are administered for a number of days depending on the white blood cell count and the patient's ability to fight off secondary infection. A puppy with minimal symptoms can recover in 2 or 3 days if the IV fluids are begun as soon as symptoms are noticed and the CPV test confirms the diagnosis. If more severe, depending on treatment, puppies can remain ill from 5 days up to 2 weeks.

However, even with hospitalization and all forms of extensive treatment, there is no guarantee that the dog will be cured and will survive. Now, in Pakistan, Parvo is highly endemic, widely spread, and is responsible for the deaths of hundreds of pups all over the country no matter how well kept and bred they may be. Hence, in case you're getting a pup, prevention is the best treatment, you can afford. Generally once the pup crosses the age of 6 months, the incidence of parvo decreases drastically. So for the first few months, keep your furry little best friends isolated from other dogs until, at the very least, all his vaccinations are complete.