

Canine Hepatitis

Infectious canine hepatitis (ICH) is a highly contagious viral disease affecting the liver and other organs, and is caused by Canine Adenovirus type 1 (CAV-1). It is spread only among domestic dogs and wild dogs such as wolves, coyotes, and foxes and is not related to human hepatitis.

Symptoms range widely, from mild to severe, and include nausea, vomiting, loss of appetite, jaundice, light-colored stool, and stomach enlargement. The liver is an important organ that performs many vital jobs, including manufacturing blood proteins, fats, and clotting substances, storing energy as glycogen to be used as blood sugar, storing fat-soluble vitamins and iron, detoxifying drugs and chemicals, secreting bile for good digestion, and filtering harmful bacteria from the blood. Any disturbance of liver function is a serious matter that can produce a large number of symptoms, and it should be treated immediately.

A dog can catch CAV-1 through direct contact with an infected animal or contaminated objects (e.g., food dishes or feces). Other modes of transmission are by inhalation or via fleas, ticks, and mosquitoes. Four to seven days after exposure, the virus multiplies and begins to be shed in the feces, saliva, and urine, making this early period the most contagious. It travels from the tonsils to the lymph nodes and then passes into the blood stream, where it remains for up to eight days. Eventually it ends up in the liver, kidneys, eyes, and other organs, where it can cause extensive cell damage.

Dogs with healthy immune systems can fight the virus by producing antibodies. However, the virus can remain in the kidneys and be shed in the urine for up to nine months, posing a threat to other dogs. The most serious cases of ICH occur in unvaccinated puppies, but dogs of all ages are susceptible.

Dogs with the acute form of ICH, which can last a week, may require hospitalization. They develop high fevers, vomiting and diarrhea, and will appear depressed and refuse to eat. Their stomachs look tucked up because of the pain from liver swelling. Their eyes tear because they are sensitive to light. Other symptoms are tonsillitis, laryngitis, pale gums, tongue, and nose, swollen lymph nodes, and yellowing of the whites of the eyes.

The fatal form of ICH is characterized by bleeding from the nose and gums, bloody vomit and diarrhea, an enlarged abdomen because of fluid leakage from a damaged liver, disorientation, seizures, coma, and death, usually within five days. Sudden death can also occur within a matter of hours, particularly in infected puppies, with no obvious symptoms.

Fortunately, most cases of ICH are mild. The dog may run a fever, act lethargic, and lose his appetite, but he will improve within two days. About one-quarter of dogs with acute ICH--usually those who are under six months old--develop "blue eye," a usually temporary clouding of the cornea of one or both eyes caused by antibodies that attach to the virus present in the eye. Inflammation and fluid accumulation in the eye's interior results, causing the cloudiness. Blue eye occasionally lasts for more than six months, and sometimes may cause permanent eye damage, including glaucoma.

After recovery from ICH, the liver will be able to repair itself, but the dog will be more susceptible to kidney infections because of the amount of time the virus can remain in the kidneys. However, he will never be reinfected with ICH.

The diagnosis of ICH is based on a history of exposure to the virus, clinical symptoms, a physical exam, and lab work such as a urinalysis and blood tests to check for antibodies. A new testing kit called ELISA can detect the virus in the feces of infected dogs. There is no cure for ICH.

Treatment is supportive, and may include intravenous fluid replacement, fasting, blood transfusions, enemas, antibiotics, and eye drops to reduce inflammation.

Because ICH can cause serious organ damage, veterinarians recommend vaccination against the virus. CAV-1 and its cousin CAV-2 are so closely related that vaccinating for either one will prevent ICH as well as kennel cough, another contagious canine disease. Pregnant females protect their litters by transferring their own antibodies against CAV-1 to the fetuses during gestation and through their milk after birth. However, this protection is only temporary. Vaccination against CAV-1 results in protection in 95% of puppies twelve weeks old and older. Two injections are recommended, the first by ten weeks of age and the second by fourteen weeks of age, with boosters either every year or every three years. Veterinarians vary in their opinions of how often boosters should be given.