



**Ettinger: Textbook of Veterinary Internal
Medicine, 7th Edition
Chronic Hepatitis in Dogs
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What is a chronic hepatitis?

Chronic hepatitis is a syndrome in dogs that can result from many different disease processes. It means that the liver has undergone or is undergoing "inflammation" and/or "necrosis." Inflammation is an invasion of different types of white cells that are active components of the immune system. The cells come from the blood stream into the liver and help fight infection. Necrosis refers to the death of large numbers of liver cells.

The invasion of white cells and cell death can both be a result of previous damage to the liver by infectious agents, such as viruses or bacteria. Previous damage could also be due to poisons ingested by the dog, cancer, or a response by the body against itself. A primary attack of the immune system against the liver cells is referred to as "auto-immune" disease. Liver cancer can also result in similar liver damage, but once cancer is identified the term chronic hepatitis is not used.

The term "chronic" means that the damaging process has been going on for some time, at least a number of weeks. This is in contrast to an "acute" hepatitis that has most likely been present for just a few days. Unfortunately the chance for complete recovery is less in chronic hepatitis than in acute hepatitis.

Chronic hepatitis can occur in any breed of dog, male or female, and at any age. Most dogs with chronic hepatitis are middle aged to older. There are certain breeds that are predisposed to this condition, meaning that although the exact mechanism may be unknown, genetics most likely play a role in disease development. Bedlington terriers, and less commonly West Highland white terriers and Skye terriers, may develop chronic hepatitis as a result of the accumulation of copper in the cells of their liver. Affected Bedlington terriers may not be able to excrete copper from the liver to the intestine via the bile because of a known genetic defect. High concentrations of copper are damaging to liver cells, resulting in severe chronic hepatitis.

Doberman Pinschers and Cocker Spaniels (American and English) are also commonly diagnosed with chronic hepatitis. Affected spaniels are usually young, and are usually diagnosed when they are 1 to 4 years old. Unfortunately Cocker Spaniels tend to be severely affected and most die within a month of diagnosis despite therapy. Although true for the majority of affected Cocker Spaniels, some dogs with luck and aggressive treatment live much longer.

What are the symptoms of chronic hepatitis?

The symptoms associated with this condition vary greatly. Symptoms can be quite vague and may include:

- Mild to marked decrease in appetite
- Lethargy
- Vomiting
- Diarrhea
- Increased drinking and urination
- Swollen belly filled with fluid
- Yellow or jaundiced tinge to his/her skin, ears and gums

A small number of affected dogs exhibit strange behavioral or neurological symptoms. These can include severe lethargy, depression, aggression, blindness, standing in corners or pressing their heads into walls or corners and sometimes even loss of consciousness, seizures and coma. These neurological signs are a result of the effects on the brain of toxins that accumulate in the body when the liver is not functioning adequately, and are part of a syndrome called "hepatic encephalopathy." When these symptoms occur, they can "wax and wane." This means that the symptoms come and go with the pet appearing healthy at some times and showing these problems at other times.

What tests are needed?

Liver disease is usually suspected based on a dog's symptoms, or problems detected during the physical examination performed by the veterinarian.

Some tests used to diagnose chronic hepatitis include:

- Blood work, used to confirm the diagnosis
- Imaging techniques (i.e. x-rays or abdominal ultrasound), used to assess the size and appearance of the liver, as dogs with chronic hepatitis tend to have relatively small livers
- Liver biopsy is the only definitive way to diagnose chronic hepatitis

A liver biopsy involves removing a small piece of tissue for evaluation. The evaluation could include microscopic evaluation by a pathologist, culture of the liver tissue for bacteria or measurement of substances in the liver like copper or iron. There are various ways your veterinarian may recommend obtaining this biopsy. The best samples are obtained surgically by opening up the abdomen and removing a piece of the liver.

A similar quality sample may be obtained by using laparoscopy. This is a technique where long instruments and a camera are inserted through the body wall under general anesthesia, without surgery, and a tissue sample is removed from the liver. A smaller sample can be obtained by inserting a special needle through the skin with ultrasound

guidance. Although this technique may be the easiest for your dog, sometimes the size of the sample is inadequate for obtaining a correct diagnosis.

Information obtained by performing a biopsy is necessary for the veterinarian in determining the type and severity of liver disease that the dog has, as well as allowing an accurate assessment of the dog's condition and the determination of appropriate treatment. The potential benefits, risks, and precautionary measures that should be taken prior to the biopsy procedure vary from case to case and should be discussed with your veterinarian. The most suitable technique for obtaining a sample of the liver from your dog should also be discussed with your veterinarian.

What treatment is needed?

The treatment of chronic hepatitis can be complex. Treatment recommendations are based on the severity and type of disease process in the liver as well as the clinical signs exhibited by your dog. Hospitalization, fluid therapy and supportive care may be necessary in severe conditions.

Medications commonly used in this disorder include:

- Special diets
- Antibiotics
- Vitamins
- Minerals (i.e. zinc)
- Immunosuppressive agents
- Anti-inflammatory agents
- Antioxidants
- Medications to prevent gastrointestinal ulceration
- Diuretics to increase urination and promote fluid loss if there is fluid in the belly.

Additional medications are also used in specific instances, such as diseases associated with copper accumulation or drugs showing signs of hepatic encephalopathy.

What is the prognosis?

Unfortunately, despite appropriate treatment, this condition is not often curable. Many dogs, though, can be kept relatively free of clinical signs and have a good quality of life for months and even years with therapy. Your veterinarian will need to recheck your dog's condition and blood work frequently. Changes to the therapeutic regimen can be suggested as needed.