



Cirrhosis of the Liver

What is cirrhosis?

Cirrhosis is a term that refers to a group of chronic liver diseases in which normal liver cells are damaged and replaced by scar tissue, decreasing the amount of normal liver tissue. The distortion of the normal liver structure by the scar tissue interferes with the flow of blood through the liver. It also handicaps the function of the liver, which, with the loss of normal liver tissue, leads to failure of the liver to perform some of its critically important functions.

What causes cirrhosis? There are a number of conditions that can lead to cirrhosis:

- Alcohol** (most common)
- Viral hepatitis** types B, C and D of chronic,
- Hemochromatosis** -- abnormal accumulation of iron in the liver and other organs
- Wilson's disease**--abnormal accumulation of copper in the liver and other organs
- Alpha1-antitrypsin deficiency**--inherited absence of a specific enzyme in the liver.
- Autoimmune hepatitis**
- Prolonged obstruction or other diseases of the bile ducts (biliary cirrhosis, sclerosing cholangitis)
- Prolonged exposure to environmental toxins
- Some forms of heart disease (cardiac cirrhosis)
- Severe reaction to drugs

Can the condition responsible for cirrhosis be identified?

Causes of the cirrhosis can be identified by certain factors such as a history of alcohol intake, blood tests and clinical signs. A liver biopsy may also help.

Does heavy drinking always lead to cirrhosis?

While almost everyone who drinks excessive amounts of alcohol sustains some liver damage, it does not necessarily develop into cirrhosis. In those individuals who drink one-half to one pint (8 to 16 ounces) of hard liquor per day (or the equivalent in other alcoholic drinks), for 15 years or more, about one-third develop cirrhosis. Another third develop fatty livers, while the remainder have only minor liver problems. In general, the more you drink, the greater the frequency and regularity of excessive intake, the more likely that cirrhosis is to result. A poor diet, long considered to be the main factor in the development of cirrhosis in the alcoholic, is probably only a contributing factor. Alcohol by itself, in large amounts, is a poison, which can cause cirrhosis.

Can social drinkers get cirrhosis?

Some individuals who are "social drinkers," not alcoholics, can develop cirrhosis. Factors affecting the development of cirrhosis include: the amount of alcohol consumed, the regularity of intake, and perhaps the state of nutrition. It is not known why some individuals are more prone to adverse reactions to alcohol than others. Women are less tolerant of alcohol than men. Researchers believe that this is because men have a greater ability than women to break down the alcohol for elimination. Studies show that a much higher percentage of women, consuming less alcohol than men, go on to cirrhosis.

Does hepatitis always result in cirrhosis?

Some patients with chronic viral hepatitis develop cirrhosis. There are five known types of viral hepatitis, each caused by a different virus. Acute hepatitis A and acute hepatitis E do not lead to chronic hepatitis. Acute hepatitis B leads to chronic infection in approximately 5% of adult patients. In a few of these patients, the chronic hepatitis B progresses to cirrhosis. Acute hepatitis D infects individuals already infected by hepatitis B. Acute hepatitis C becomes chronic in approximately 80% of adults. A minority of these patients (20-30%) will progress to cirrhosis, typically over many years.

What are the signs and symptoms of cirrhosis?

The onset of cirrhosis is often "silent" with few specific symptoms to identify what is happening in the liver. As continued scarring and destruction occur, the following signs and symptoms may appear: Loss of appetite, Nausea and vomiting, Weight loss, Enlargement of the liver, Jaundice--yellow discolouration of the whites of the eyes and skin occurs because of bile pigment, Itching--due to the retention of bile products in the skin, ascites--abdominal swelling due to an accumulation of fluid, Vomiting of blood--frequently occurs from swollen, ruptured varices (veins that burst) in the lower end of the esophagus due to the increased pressure in these vessels caused by scar tissue, Increased sensitivity to drugs--due to inability of the liver to inactivate them . Encephalopathy (impending coma)--subtle mental changes advancing to profound confusion. Many patients may have no symptoms and are found to have cirrhosis by physical examination and laboratory tests, which may have been performed in the course of treatment for unrelated illnesses.

How is cirrhosis treated?

Treatment depends on the type and stage of the cirrhosis. It aims at stopping the progress of the cirrhosis, reversing (to whatever extent possible) the damage, which has already occurred, and treating complications that are disabling or life threatening. Stopping or reversing the process requires removal of the cause, such as abstinence from alcohol, or antiviral treatments if caused by Hepatitis B or C. In certain types of cirrhosis caused by autoimmune hepatitis corticosteroids or with Azathioprine may be used. In haemochromatosis removal of excess iron by phlebotomy (removal of one pint of blood per week) is arranged. In most types of cirrhosis a liver transplantation with replacement of the diseased organ may be needed if liver failure occurs.

What are the complications of cirrhosis?

Complications of cirrhosis include ascites, coma and haemorrhage from esophageal varices.

- ◆ **Ascites** is treated by reducing the intake of salt and the administration of drugs to improve excretion of salt and water (diuretics). In some instances, large amounts of fluid are removed by direct catheter drainage through the abdominal wall (large volume paracentesis).
- ◆ **Treatment of coma**, or impending coma (encephalopathy), includes specific medications, reducing the intake of protein foods, and control of intestinal haemorrhage.
- ◆ **Treatment of haemorrhage from varices (internal varicose veins)** includes sclerotherapy (injection of the enlarged vein with a chemical that causes scarring). Other treatments include: drugs to reduce the likelihood of bleeding or rebleeding, compression of the bleeding varices with a specially constructed balloon, and a new radiological procedure called transjugular intrahepatic portosystemic shunt (TIPS).

How might cirrhosis affect other diseases I might have or treatment of them?

The responsibility of the liver for the proper functioning of the whole body is so great that the chronic disease of the liver may modify the body's responses to a variety of illnesses. Abnormal function of the liver in cirrhosis may:

- ◆ affect the dose of medicine required in the treatment of other conditions
- ◆ affect the treatment of diabetes
- ◆ alter response of the body to infection
- ◆ alter tolerance for surgical procedures
- ◆ Patients with cirrhosis are particularly prone to develop fatal bacterial infections, kidney malfunctions, stomach ulcers, gallstones, a type of diabetes and cancer of the liver.

What are my prospects for reasonable health and survival with treatment?

Treatment at this stage, with proper adherence to the physician's recommendations, leads to improvement in the majority of cases and the patient is able to pursue a normal life and activities. When cirrhosis is not discovered until extensive damage has resulted, the outlook may be less favourable for improvement, and complications such as ascites and haemorrhage are more likely to be encountered. The liver is a large organ and is able to perform its vital functions despite some damage. It also has the ability to repair itself to a limited degree. New cells replace cells that die. If the cause of cirrhosis can be removed, these factors provide hope for both improvement and carrying on a normal life. An increasing number of scientific investigators conducting liver research give hope for new breakthroughs in treatment, management and cures for liver diseases in the foreseeable future.