

Cirrhosis of the Liver

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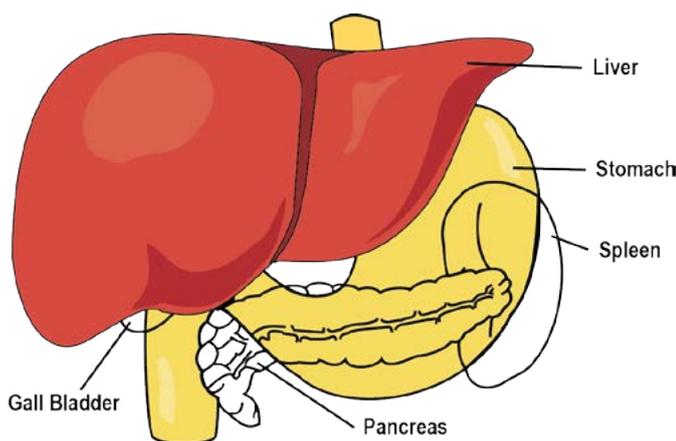
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What is the liver?

The liver is the second largest organ of the body. It performs numerous tasks like storing vital energy and nutrients, manufacturing proteins and enzymes necessary for good health, protecting the body from disease, and also helps remove harmful toxins, like alcohol, from the body.



What is cirrhosis of the liver?

Cirrhosis is scarring of the liver usually caused by many years of continuous injury e.g. hepatitis or chronic liver abuse. The liver has an ability to repair itself. However, following the injury, healing and repair results in scar tissue formation. If the offending agent is removed, there may be reversal in the liver damage, but continuous insult leads to more and more scar tissue formation making it impossible for the liver to function naturally. In extreme cases, cirrhosis is generally irreversible and treatment is by liver transplant.

What are the causes of cirrhosis?

- Chronic alcohol abuse
- Chronic hepatitis B
- Chronic hepatitis C
- Nonalcoholic fatty liver disease (NAFLD)
- Primary biliary cirrhosis (destruction of the bile ducts)
- Primary sclerosing cholangitis (hardening and scarring of the bile ducts)
- Hemochromatosis (iron buildup in the body)
- Autoimmune hepatitis
- Cystic fibrosis
- Wilson's disease (copper accumulation in the liver)
- Infection by a parasite
- Biliary atresia or poorly formed bile ducts
- Inherited disorders of sugar metabolism
- Budd-Chiari syndrome
- Drugs and toxins
- Congestive heart failure
- Cryptogenic cirrhosis (no known cause)

What are the symptoms of cirrhosis?

People with cirrhosis sometimes may have no symptoms at all. Symptoms when present may include:

- Loss of appetite
- Weight loss
- Weakness
- Jaundice
- Itching
- Signs of upper gastrointestinal bleeding – vomiting blood, or having bowel movements that look like tar or that contain blood

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- Fluid accumulation in the abdomen (ascites) and feet (edema)
- Bleeding and bruising easily
- Mood changes, confusion, or abnormal sleep patterns – hepatic encephalopathy
- Muscle cramps
- Absent or irregular menstrual bleeding in women
- Erectile dysfunction, infertility, or loss of sex drive in men
- Breast development in men
- Spider veins

- processes become abnormal.
- Hepatorenal syndrome – When the kidneys get diseased due to cirrhosis, it results in the hepatorenal syndrome.
- Lung and heart involvement – Cirrhosis causes numerous problems with the lungs and heart.
- Liver cancer – If the cirrhosis is due to Hepatitis B or Hepatitis C, patients have an increased risk of developing liver cancer. Even with other causes of cirrhosis the risk of developing liver cancer is high.

What are the complications of cirrhosis?

Cirrhosis can lead to many complications, some of which happen because the liver is no longer able to do work well, and some of which happen because blood flow through the liver is disrupted. The major complications of cirrhosis are:

- Esophageal varices and variceal bleeding – Esophageal varices are enlarged/dilated blood vessels in the esophagus. When the pressure buildup inside these blood vessels, they burst and causing severe bleeding.
- Abdominal swelling or Ascites – Accumulation of fluid in the abdomen is called ascites. Patients with ascites may develop an infection known as spontaneous bacterial peritonitis
- Hepatic encephalopathy – Due to the buildup of toxins due to the malfunctioning of the liver, brain

How is Liver Cirrhosis diagnosed?

- Ultrasound
- Liver biopsy
- Liver Function tests
- Other imaging tests – MRI or CT
- Transient elastography which detects the amount of fibrosis in the liver or the stiffness of the liver

What is the treatment of cirrhosis?

Treatment for cirrhosis depends on the cause of the cirrhosis as well as the extent of the damage but the principles to treating are as follows:

Primary goals of treating cirrhosis

- To treat the cause of cirrhosis
- To treat and effectively manage the symptoms of cirrhosis
- To anticipate, take preventive measures and manage the complications of cirrhosis
- To assess the patient for liver transplant

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In early cirrhosis, how does one minimize further damage to the liver?

- Stop drinking alcohol. For people who cannot stop drinking, rehabilitation programs must be considered.
- For patients with NAFLD as the cause of cirrhosis weight loss as well as blood sugar control effectively prevents progression to cirrhosis.
- Low sodium diet
- Eat a healthy diet
- Avoid infections
- Use over-the-counter medications carefully
- Reduce the risk of hepatitis
 - Don't share needles
 - Don't have unprotected sex
 - Vaccinate against hepatitis B

How can the complications of cirrhosis be treated?

- Edema or ascites
 - Low-sodium diet
 - Medicines to prevent fluid collection
 - Drain the fluid by tapping
- Varices
 - Medications to control portal hypertension and prevent severe bleeding
 - Band ligation and injection of the varices to stop the bleeding and prevent future bleeding
- Surgery to relieve the portal pressure
- Infections

- Can be treated by antibiotics
- Prevented by vaccines for influenza, pneumonia and hepatitis
- Liver cancer
 - Periodic blood tests
 - USG
- Hepatic encephalopathy
 - Medicines are available to prevent the buildup of toxins.

What is the role of liver transplant in cirrhosis?

- Very simply liver transplant is replacing the diseased liver with a healthy one.
- However in real situations it is a complex and expensive procedure where the liver needed for transplant is not easily available.
- Livers are generally acquired from people who have been brain dead due to other reasons. Livers can be acquired from living donors as well, especially for young children.
- It is the treatment of choice in advanced cirrhosis.

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