



THE **JOHNS**

THE 100 MAJOR MEDICAL

**HOPKINS**

DISORDERS OF PEOPLE

**MEDICAL**

OVER THE AGE OF 50

**HANDBOOK**

AND DIRECTORY TO THE LEADING  
TEACHING HOSPITALS, TREATMENT  
CENTERS, AND SUPPORT GROUPS

After the gallstones are removed and inflammation subsides, the pancreas usually returns to normal. Before patients leave the hospital, they are advised not to drink alcohol and not to eat large meals.

#### CHRONIC PANCREATITIS

Chronic pancreatitis usually follows many years of alcohol abuse. It may develop after only one acute attack, especially if there is damage to the ducts of the pancreas. In the early stages, the doctor cannot always tell whether the patient has acute or chronic disease. The symptoms may be the same. Damage to the pancreas from drinking alcohol may cause no symptoms for many years, and then the patient suddenly has an attack of pancreatitis. In more than 90 percent of adult patients, chronic pancreatitis appears to be caused by alcoholism. This is more common in men than women and often develops between 30 and 40 years of age. In other cases, pancreatitis may be inherited. Scientists do not know why the inherited form occurs. Patients with chronic pancreatitis tend to have three kinds of problems: pain, malabsorption of food leading to weight loss, or diabetes.

Some patients do not have any pain, but most do. Pain may be constant in the back and abdomen, and for some patients, the pain attacks are disabling. In some cases, the abdominal pain goes away as the condition advances. Doctors think this happens because pancreatic enzymes are no longer being made by the pancreas.

Patients with this disease often lose weight, even when their appetite and eating habits are normal. This occurs because the body does not secrete enough pancreatic enzymes to break down food, so nutrients are not absorbed normally. Poor digestion leads to loss of fat, protein, and sugar into the stool. Diabetes may also develop at this stage if the insulin-producing cells of the pancreas (islet cells) have been damaged.

#### Diagnosis

Diagnosis may be difficult but is aided by a number of new techniques. Pancreatic function tests help the physician decide if the pancreas still can make enough digestive enzymes. The doctor can see abnormalities in the pancreas using several techniques (ultrasonic imaging, endoscopic retrograde cholangiopancreatography [ERCP], and the CT scan). In more advanced stages of the disease, when diabetes and malabsorption (a problem due to lack of enzymes) occur, the doctor can use a number of blood, urine, and stool tests to help in the diagnosis of chronic pancreatitis and to monitor the progression of the disorder.

#### Treatment

The doctor treats chronic pancreatitis by relieving pain and managing the nutritional and metabolic problems. The patient can reduce the amount of fat and protein lost in stools by cutting back on dietary fat and taking pills containing pancreatic enzymes. This will result in better nutrition and weight gain. Sometimes insulin or other drugs must be given to control the patient's blood sugar.

In some cases, surgery is needed to relieve pain by draining an enlarged pancreatic duct. Sometimes, part or most of the pancreas is removed in an attempt to relieve chronic pain.

Patients must stop drinking, adhere to their prescribed diets, and take the proper medications in order to have fewer and milder attacks.

*The National Institute of Diabetes and Digestive and Kidney Diseases*

## CIRRHOSIS OF THE LIVER

Many people think that cirrhosis is a disease. Cirrhosis is really what happens to the liver as a result of disease. Your liver weighs about

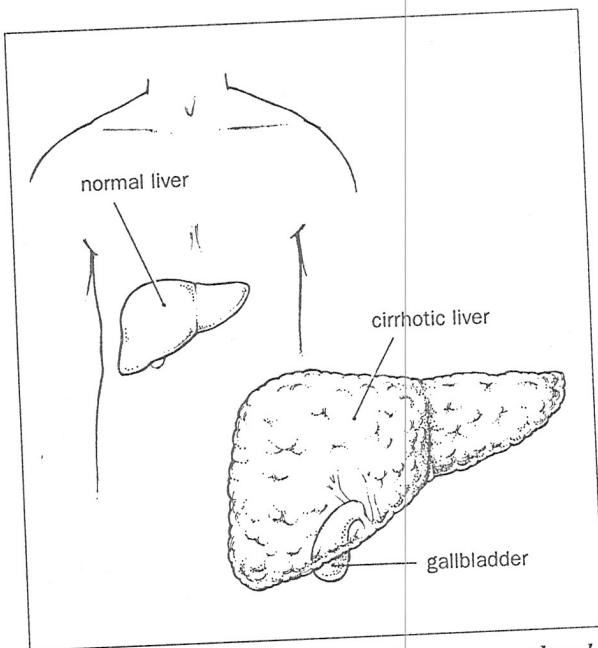
three pounds and is the largest organ in your body. It is located in the upper right side of your abdomen, below the ribs. When chronic diseases cause the liver to become permanently injured and scarred, the condition is called cirrhosis.

The scar tissue that forms in cirrhosis harms the structure of the liver, blocking the flow of blood through the organ. The loss of normal liver tissue slows the processing of nutrients, hormones, drugs, and toxins by the liver. Also slowed is production of proteins and other substances made by the liver.

Cirrhosis is the seventh leading cause of death by disease. About 25,000 people die from cirrhosis each year. There also is a great toll in terms of human suffering, hospital costs, and work loss by people with cirrhosis.

**CAUSES**

Cirrhosis has many causes. In the United States, chronic alcoholism is the most common cause. Cirrhosis also may result from chronic



*In a cirrhotic liver, healthy cells die and are replaced by scar tissue. Initially, the liver enlarges; in end-stage cirrhosis, the liver shrivels.*

viral hepatitis (types B, C, and D). Liver injury that results in cirrhosis also may be caused by a number of inherited diseases such as cystic fibrosis, alpha-1 antitrypsin deficiency, hemochromatosis, Wilson's disease, galactosemia, and glycogen storage diseases.

Two inherited disorders result in the abnormal storage of metals in the liver leading to tissue damage and cirrhosis. People with Wilson's disease store too much copper in their livers, brains, kidneys, and in the corneas of their eyes. In another disorder, known as hemochromatosis, too much iron is absorbed, and the excess iron is deposited in the liver and in other organs, such as the pancreas, skin, intestinal lining, heart, and endocrine glands.

If a person's bile duct becomes blocked, this also may cause cirrhosis. The bile ducts carry bile formed in the liver to the intestines, where the bile helps in the digestion of fat.

In adults, the bile ducts may become inflamed, blocked, and scarred due to another liver disease, primary biliary cirrhosis. Another type of biliary cirrhosis also may occur after a patient has gallbladder surgery in which the bile ducts are injured or tied off.

Other, less common, causes of cirrhosis are severe reactions to prescribed drugs, prolonged exposure to environmental toxins, and repeated bouts of heart failure with liver congestion.

**SYMPTOMS**

People with cirrhosis often have few symptoms at first. The two major problems that eventually cause symptoms are loss of functioning liver cells and distortion of the liver caused by scarring. The person may experience fatigue, weakness, and exhaustion. Loss of appetite is usual, often with nausea and weight loss.

As liver function declines, less protein is made by the organ. For example, less of the protein albumin is made, which results in

water accumulation (ascites) in the abdomen (ascites) for blood pressure. This may cause a person to breathe

In the late stages of cirrhosis, the skin may become yellow (yellow skin) due to the presence of bile pigments in the blood. The person may experience itching (pruritus) that are dependent on the amount of bile in the blood. Some people may experience enough bile to cause

The liver may cause trouble remaining in the blood. The liver's function may decline, and the person may even become comatose. The accumulation of toxins in the blood may lead to neglect of personal hygiene, for example, or changes in

**Drugs taken** may cause this cleansing process. The liver may be affected at the usual dose. The expected, build-up of toxins often are very harmful effects.

A serious complication is pressure in the blood vessels through the intestines. This blockage through the normal flow of blood pressure in the intestines. This blockage through the spleen and intestines through the liver. Some of the quite large vessels may be affected (the tube to the stomach).

water accumulating in the legs (edema) or abdomen (ascites). A decrease in proteins needed for blood clotting makes it easy for the person to bruise or to bleed.

In the later stages of cirrhosis, jaundice (yellow skin) may occur, caused by the buildup of bile pigment that is passed by the liver into the intestines. Some people with cirrhosis experience intense itching due to bile products that are deposited in the skin. Gallstones often form in persons with cirrhosis because not enough bile reaches the gallbladder.

The liver of a person with cirrhosis also has trouble removing toxins, which may build up in the blood. These toxins can dull mental function and lead to personality changes and even coma (encephalopathy). Early signs of toxin accumulation in the brain may include neglect of personal appearance, unresponsiveness, forgetfulness, trouble concentrating, or changes in sleeping habits.

Drugs taken are usually filtered out by the liver, and this cleansing process also is slowed down by cirrhosis. The liver does not remove the drugs from the blood at the usual rate, so the drugs act longer than expected, building up in the body. People with cirrhosis often are very sensitive to medications and their side effects.

A serious problem for people with cirrhosis is pressure on blood vessels that flow through the liver. Normally, blood from the intestines and spleen is pumped to the liver through the portal vein. But in cirrhosis, this normal flow of blood is slowed, building pressure in the portal vein (portal hypertension). This blocks the normal flow of blood, causing the spleen to enlarge. So blood from the intestines tries to find a way around the liver through new vessels.

Some of these new blood vessels become quite large and are called "varices." These vessels may form in the stomach and esophagus (the tube that connects the mouth with the stomach). They have thin walls and carry high

pressure. There is great danger that they may break, causing a serious bleeding problem in the upper stomach or esophagus. If this happens, the patient's life is in danger, and the doctor must act quickly to stop the bleeding.

#### DIAGNOSIS

The doctor often can diagnose cirrhosis from the patient's symptoms and from laboratory tests. During a physical exam, for instance, the doctor could notice a change in how your liver feels or how large it is. If the doctor suspects cirrhosis, you will be given blood tests. The purpose of these tests is to find out if liver disease is present. In some cases, other tests that take pictures of the liver are performed such as the computed tomography (CT) scan, ultrasound, and the radioisotope liver/spleen scan.

The doctor may decide to confirm the diagnosis by putting a needle through the skin (biopsy) to take a sample of tissue from the liver. In some cases, cirrhosis is diagnosed during surgery when the doctor is able to see the entire liver. The liver also can be inspected through a laparoscope, a viewing device that is inserted through a tiny incision made in the abdomen.

#### TREATMENT

Treatment of cirrhosis is aimed at stopping or delaying its progress, minimizing the damage to liver cells, and reducing complications. In alcoholic cirrhosis, for instance, the person must stop drinking alcohol to halt progression of the disease. If a person has hepatitis, the doctor may administer steroids or antiviral drugs to reduce liver cell injury.

Medications may be given to control the symptoms of cirrhosis, such as itching. Edema and ascites (fluid retention) are treated by reducing salt in the diet. Drugs called diuretics are used to remove excess fluid and to prevent edema from recurring. Diet and drug therapies can help to improve the altered mental

function that cirrhosis can cause. For instance, decreasing dietary protein results in less toxin formation in the digestive tract. Laxatives such as lactulose may be given to help absorb toxins and speed their removal from the intestines.

The two main problems in cirrhosis are liver failure, when liver cells just stop working, and the bleeding caused by portal hypertension. The doctor may prescribe blood pressure medication, such as a beta blocker, to treat the portal hypertension. If the patient bleeds from the varices of the stomach or esophagus, the doctor can inject these veins with a sclerosing agent administered through a flexible tube (endoscope) that is inserted through the mouth and esophagus. In critical cases, the patient may be given a liver transplant or another surgery (such as a portacaval shunt) that is sometimes used to relieve the pressure in the portal vein and varices.

Patients with cirrhosis often live healthy lives for many years. Even when complications develop, they can be treated. Many patients with cirrhosis have undergone successful liver transplantation.

*The National Institute of Diabetes and Digestive and Kidney Diseases*

## VIRAL HEPATITIS

Viral hepatitis is the most common of the serious contagious diseases caused by several viruses that attack the liver. About 70,000 cases are reported to the Centers for Disease Control each year, but this represents only a fraction of the cases occurring in this country.

Hepatitis means inflammation of the liver, usually producing swelling and tenderness and sometimes permanent damage to the liver. Hepatitis may also be caused by nonviral substances such as alcohol, chemicals, and drugs. These types of hepatitis are known re-

spectively as alcoholic, toxic, and drug-induced hepatitis.

### TYPES OF VIRAL HEPATITIS

At least five types of viral hepatitis are currently known, each caused by a different identified virus.

- **Hepatitis A**, formerly called infectious hepatitis, is most common in children in developing countries, but is being seen more frequently in adults in the western world.
- **Hepatitis B**, formerly called serum hepatitis, is the most serious form of hepatitis, with over 300 million carriers in the world and an estimated 1 million in the United States.
- **Hepatitis C**, formerly called non-A, non-B hepatitis, is now the most common cause of hepatitis after blood transfusion. More than 1 percent of Americans are carriers of the virus.
- **Hepatitis D**, formerly called delta hepatitis, is found mainly in intravenous drug users who are carriers of the hepatitis B virus which is necessary for the hepatitis D virus to spread.
- **Hepatitis E**, formerly called enteric or epidemic non-A, non-B hepatitis, resembles hepatitis A, but is caused by a different virus commonly found in the Indian Ocean area.
- **Other viruses**, especially members of the herpes virus family, including the cold sore virus, chicken pox virus, infectious mononucleosis virus, and others, can affect the liver as well as other organs they infect. This is particularly true when the immune system is impaired.

### HOW THE INFECTION IS SPREAD

**Hepatitis A and E** viruses are excreted or shed in feces. Direct contact with an infected per-