

An overview of liver cirrhosis



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The liver is a dark reddish brown organ weighing about 3 pounds located in the upper right hand portion of the abdominal cavity. It is the largest compact organ in human body. The word cirrhosis stem from a Greek word meaning yellowish, tawny, that is the orange “ yellow color of the diseased lever. Verrill et al, 2008 describe the term cirrhosis as a broad church that include at one end biopsies with extensive fibrosis with normal numbers of hepatocytes, and at the other end, liver samples in which only isolated nodules of hepatocytes remain. Shibli et al, 2006 summarizes cirrhosis as an advanced stage of liver diseases due to an array of insults to hepatic parenchyma including infections, autoimmune processes, genetic disorders and toxins. Widespread fibrosis with nodule formation and interruption of normal hepatic blood flow is distinctive in liver cirrhosis.

A healthy lever is important because it is involved in numerous complex metabolic functions essential to life. It takes out nutrients from the blood and processes them for later use. The liver manufactures bile used by the digestive system in assisting in the absorption of fat and certain vitamins. The liver is also critical in the removal of medications and toxic wastes from the blood stream excreting them into the bile. These can be harmful to the body. The liver serves as the main factory for blood proteins especially clotting proteins necessary for blood to clot. Clotting tests can be done to measure liver function.

Lever cirrhosis is scarring of the liver due to inflammation and repair of injured and killed cells. According to the American College of Gastroenterology ([www. acg. gi. org](http://www.acg.gi.org)) cirrhosis is among the top ten leading causes of illness and death in the United States in adults of ages between 25

and 64. They further argued that the number of people suffering from cirrhosis will continue to escalate.

The most common causes of cirrhosis in the United States are excess alcohol consumption and chronic infection with hepatitis B and hepatitis C (Larson, 2010). Other causes include fatty liver disease; drug induced injury, autoimmune diseases, bile duct disorders and inherited disorders. In some patients liver cirrhosis may be due to a combination of the causes, for example excess alcohol and viral hepatitis. There is also cryptogenic cirrhosis which is due to unidentified causes.

The consequence scar tissue bands disrupt the normal structure of the liver. This affects liver blood filtering to the heart from the digestive system. The scar tissue causes increased resistance to blood flow through the liver resulting in a condition called portal hypertension. Portal hypertension is a process whereby high pressures develop in the veins that drain into the liver. Consequently the blood will return to the heart through alternate low pressure veins that bypass the liver. The liver is thus unable to either add or remove substances from the bypassing blood.

Symptoms of Cirrhosis

The signs and symptoms of liver cirrhosis may be invisible or non specific at early stages. The non specific symptoms include fatigue and itching. Fatigue is a common symptom of cirrhosis. It is important to screen out other causes of fatigue that may have nothing to do with liver cirrhosis. Itching is also a common symptom of cirrhosis. Itching in patients with liver cirrhosis is due to bile duct disorders. Itching due to liver cirrhosis can result in itching over

large parts of the body and can be severe. As liver function deteriorates, a variety of liver related symptoms may develop. A condition called Jaundice may manifest through yellowing of the skin and whites of the eyes.

Darkening of the urine and pale stool may occur prior to yellowing of the skin and whites of the eyes. The yellowing is a result of accumulation of bilirubin in the blood stream. Bilirubin is a yellow orange colored compound resulting from breakdown of hemoglobin from red blood cells. Liver cirrhosis patients may also develop varices inside the digestive system resulting in digestive tract bleeding. Varices are abnormally enlarged veins. They do not cause symptoms unless they rupture and bleed. Vomiting blood or passage of maroon or black tarry stools may be an indication of bleeding varices.

Esophageal varices bleeding are a medical emergency that requires emergency treatment. Other symptoms and signs of liver cirrhosis include development of mental slowing, confusion, excess drowsiness, and slurring of speech, a condition known as hepatic encephalopathy.

Liver cirrhosis diagnosis

A procedure called liver biopsy is the best in cirrhosis diagnosis. This involves examining a sample of liver tissue under a microscope. A thin needle is inserted into the liver to remove a small piece of liver tissue. This is done under local anesthesia. This procedure also provides information as to the cause. There are risks and possible complications associated with liver biopsy. It is therefore often done under uncertain circumstances. A physical examination and patient history is often used in diagnosis. A history of excessive alcohol use, intravenous drug abuse and chronic viral hepatitis B or C suggests possibility of cirrhosis of the liver. Enlarged livers and or

spleens are also an indication of possible cirrhosis. This can be substantiated by feeling the lower edge of an enlarged liver below the right rib cage and below the left rib cage the tip of the enlarged spleen. A cirrhotic liver is more rigid and irregular than a normal liver. Some cirrhosis patients may have small red-like markings on the skin particularly on the chest called spider telangiectasias. There is need to be cautious with this as these can also be seen in persons with no liver disease. Jaundice, ascites and edma are common with patients with cirrhosis.

Complications with Cirrhosis

The liver is critical in many complex metabolic functions and cirrhosis causes many complications. The major complications of cirrhosis are ascites, gatsrophageal varices-related bleeding, hepatic encephalopathy, hepatorenal syndrome and hepatocellular carcinoma (HCC) (Shibili et al., 2006). Ascites, result of portal hypertension is the most common complication of cirrhosis asserts Shilbili at al., 2006. Ascites is the retention of abnormal amount of fluids inside the abdominal cavity. According to Runyon et al., 1986 fluid removal makes patients feel better and may protect against bacterial infection of ascetic fluid although there is no evidence of improving survival. Dolz et al., 1991 also found that removing the fluid reduced the risk of cellulite and chances of hernia formation or diaphragmatic rapture associated with tense ascites through decreasing the amount of energy wasted in heating the fluid. Ascites fluid is drained by inserting a small needle into the abdominal cavity under local anesthesia, a procedure known as paracentesis. Ascites are also controlled by dietary salt restrictions and diuretic medications (www. acg. gi. org).

Varices are abnormally enlarged veins that develop within the digestive system of patients with cirrhosis. They are common in the esophagus. According to Shibli et al, 2006 variceal bleeding is the main cause of morbidity and mortality with liver cirrhosis. Smith and Graham, 1982 found that each incident of bleeding carried a 30% risk of mortality. Bolondi et al., 1996 recommend that cirrhosis patients undergo diagnostic endoscopy to document the presence of varices and risk of variceal hemorrhage. Propranolol or nadolol can be recommended for primary prophylaxis of variceal bleeding. Blood pressure reducing medications may be used for esophageal varices treatment. Applying treatment directly to the varices during endoscopy may be employed

Hepatic Encephalopathy is a condition where waste products enter the circulation and delivered to the brain. This is a consequent of impairing of the normal filtering function of the liver resulting in blood returning from the intestines being not properly detoxified of waste products from digestion. This may manifest in patients through mental slowing, confusion, excess drowsiness, and slurring of speech. Toxin buildup within the brain, particularly ammonia could be the predominant mechanism (Isobe-Harima et al., 2007). Ultimately hepatic encephalopathy may cause coma and death. Medications for hepatic encephalopathy include lactulose and/or oral antibiotics. Cirrhosis patients are at high risk of developing liver cancer, hepatocellular carcinoma particularly those with hepatitis C infection (www.acg.gi.org). Success in liver cancer treatment is early detection depended. Ultrasound, CT scan or MRI typically every six months is recommended for

detecting liver tumors. Alpha-fetoprotein (AFP) blood test may also be used although it is not reliable enough by itself.

Treatment

The American College of Gastroenterology ([www. acg. gi. org](http://www.acg.gi.org)) lists the objectives of medicare for patients with cirrhosis as:

Treating the underlying cause of liver cirrhosis

Preventing cirrhosis-related complications

Treating the symptoms of cirrhosis

Medicinenet ([www. medicinenet. com](http://www.medicinenet.com)) summarizes treatment as including:

Avoiding further damage of the liver

Treating cirrhosis complications

Avoiding liver cancer or spotting it early

Liver transplantation

Nursing interventions and care plans are designed, tailor made and implemented according to the prevailing clinical circumstances. These include monitoring critical symptoms and signs of cirrhosis, skin care, weight documenting, providing oral hygiene, stool and urine inspections, watching for signs of anxiety, weakness, restlessness and provide psychological support when necessary among other things.

In a study Verrill et al 2008, confirmed that the single most important determinant of long term prognosis in alcohol induced cirrhosis is for the patient to stop drinking.