www.hcvadvocate.org

a series of fact sheets written by experts in the field of liver disease

HCV ADVOCATE

HCSP FACT SHEET

•HCV DISEASE PROGRESSION•

What is Cirrhosis?

Written by: Alan Franciscus, Editor-in-Chief

Foreword

The term cirrhosis is derived from the Greek term scirrhus and is used to describe the orange or tawny surface of the liver. Chronic hepatitis C infection can lead to liver damage through the development of fibrosis (scarring) tissue in the liver. After years or decades of infection liver fibrosis can become so extensive that the architecture of the liver is altered as a result of excessive scarring, development of small nodules, and changes in liver tissue. This is called cirrhosis. As cirrhosis further develops, scar tissue replaces healthy liver cells and the ability of the liver to perform its many functions is impaired. Of note, the damage to the liver is not only caused by the hepatitis C virus – the damage is also caused by the immune system attacking and destroying the liver cells where the hepatitis C virus has taken up residence. It is important to remember that the majority of people with hepatitis C do not develop cirrhosis. Hepatitis C is a slowly progressive disease and only about 10-25% of people with chronic hepatitis C develop cirrhosis, but this process usually takes many years or decades. However, we can not predict who will and who will not develop cirrhosis so it is important that people are monitored on a regular basis by their medical providers.

Chronic liver disease and cirrhosis is the 12th leading cause of death in the United States. The number of annual deaths attributed to HCV and cirrhosis is approximately 15,000. Hepatitis C is the most common cause of cirrhosis in the United States, followed by alcoholic liver disease. Other causes include non-alcoholic fatty liver disease (NAFLD), genetic disorders, hepatitis B, hepatitis D, drugs and toxins and other diseases or conditions not listed above. NAFLD is expected to be the leading cause of cirrhosis in the coming decades.

HCV Genotype

In general people with HCV genotype 3 have a faster disease progression to cirrhosis and liver cancer than HCV genotype 1. HCV genotype 2 has a lower risk of disease progression than HCV genotype 1.

HCSP FACT SHEET
A publication of the Hepatitis C Support Project

EXECUTIVE DIRECTOR, EDITOR-IN-CHIEF, HCSP PUBLICATIONS
Alan Franciscus

DESIGN
Leslie Hoex, Blue Kangaroo Design

PRODUCTION
C.D. Mazoff, PhD

CONTACT INFORMATION

Hepatitis C Support Project
PO Box 15144
Sacramento, CA 95813
alanfranciscus@hcvadvocate.org

What is Cirrhosis?

Cirrhosis is divided into two categories – *compensated and decompensated*.

Compensated Cirrhosis

Compensated cirrhosis means that the liver is heavily scarred but can still perform many important bodily functions. Many people with compensated cirrhosis experience few or no symptoms and can live for many years without serious complications. But it is important to remember that HCV disease progression is not linear; that is, the process speeds up so it is critical for people to take the necessary steps to make sure that they are receiving the appropriate medical care, which may include HCV therapy to help slow down or stop the disease progression process.

Decompensated Cirrhosis

Decompensated cirrhosis means that the liver is extensively scarred and unable to function properly. People with decompensated cirrhosis eventually develop many symptoms and complications that can be life threatening.

Symptoms and Complications of Decompensated Cirrhosis

Patients with decompensated cirrhosis develop a variety of symptoms such as fatigue, exhaustion, loss of appetite, nausea, jaundice, weight loss, stomach pain, impotence, bruising and bleeding, and other potentially life threatening symptoms.

Many complications can develop because the liver is unable to perform many of its important functions.

Complications of cirrhosis can include:

- A combination of factors such as portal hypertension, low albumin levels and kidney dysfunction produce an accumulation of fluid in the body. Ascites is the accumulation of fluid in the abdominal cavity. Edema is the accumulation of fluid in the extremities, especially the feet and legs.
- Bleeding problems (coagulopathy) develop as the liver is unable to produce clotting factors. In addition platelet (for blood clotting) count drops because of an enlarged spleen.
- As liver disease progresses there is bone mass and density loss.
- The spleen stores red and white blood cells and platelets. An enlarged spleen develops due to blood being forced into it when portal hypertension develops. An enlarged spleen loses its ability to store red and white blood cells, and platelets.
- Hardening of the liver due to dying liver cells can be felt on examination.
- A damaged liver is unable to regulate the production and breakdown of some female and male hormones. In women this can cause menstrual irregularities, and in men, gynecomastia (breast enlargement).
- Impaired mental status is due to many factors. Toxic substances such as ammonia that are usually filtered by the liver reach the brain. Symptoms of encephalopathy include personality changes, changes in sleep patterns, violent behavior, sluggish movements, drowsiness, confusion, stupor, and coma.
- Itching (pruritus) can develop that can be debilitating. The cause of pruritus is believed to be caused by impairment or failure of bile flow complicated by jaundice.
- Kidney function deteriorates in someone with decompensated cirrhosis, contributing to fluid retention (ascites, edema) and various kidney disorders.
- People with hepatitis C who develop cirrhosis are at risk for liver cancer.
- Muscle wasting can result from the inability of the liver to metabolize proteins, which can make a person with cirrhosis more prone to bone fractures.
- Scar tissue in the liver restricts the flow of blood

What is Cirrhosis?

and leads to portal hypertension resulting in complications such as ascites, spontaneous bacterial peritonitis, varices and other potentially life-threatening complications.

- Spontaneous Bacterial Peritonitis is a condition caused when the body's natural bacteria enters the ascites fluid causing severe infection.
- The veins in the stomach, esophagus and rectum become so stretched and dilated (due to portal hypertension) that a condition called varices develops which can lead to internal bleeding.

When the liver completely breaks down and it is unable to perform its job, it is called end-stage liver disease. The goal at this stage is to try to manage complications due to a deteriorating liver. Treatment of people with decompensated cirrhosis is typically with interferon- and ribavirin-free based therapies. If people are treated with HCV medications at this stage it is usually in the setting of a transplant center that can carefully monitor people during therapy. The results of some small HCV treatment studies in people with HCV waiting for a liver transplant have found some success in achieving sustained virological response rates and even some improvement in liver function. In addition, a few studies have found that elimination of HCV prior to liver transplantation prevents reinfection of the liver after transplantation. Currently, the only potentially effective treatment for end-stage liver disease is liver transplantation.

Related publications:

- **HCV Disease Progression: Acute HCV**
  www.hcvadvocate.org/hepatitis/factsheets_pdf/Acute_HCV.pdf
- **HCV Disease Progression: Overview of HCV Disease Progression**
  http://hcvadvocate.org/hepatitis/factsheets_pdf/Disprogess_over.pdf
- **HCV Disease Progression: Steatosis**
  www.hcvadvocate.org/hepatitis/factsheets_pdf/steatosis.pdf

For more information

- **Americans with Disabilities Act**
  www.ada.gov
- **Centers for Disease Control and Prevention**
  www.cdc.gov
- **National Cancer Institute:**
  www.cancer.gov
- **Mayo Clinic**
  www.mayoclinic.com

Visit our websites to learn more about viral hepatitis:

www.hcvadvocate.org • www.hbvadvocate.org
www.hepatitistattoos.org

Get Tested. Get Treated. Get Cured.