



## Esophageal Varices

The human body is a complex system of interconnected organs and structures, each with a specific role in maintaining our overall health. One such structure is the esophagus, a muscular tube connecting the throat to the stomach. But what happens when veins in the esophagus become abnormally large and potentially bleed? This condition is known as esophageal varices.

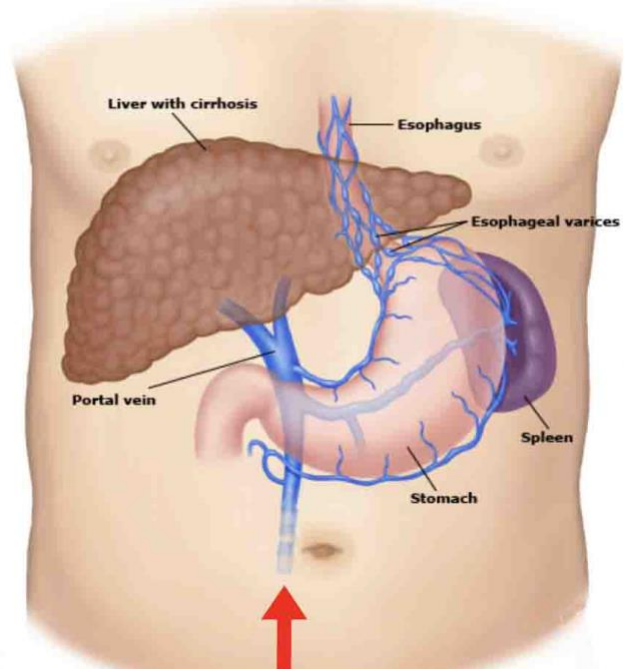
### What are Esophageal Varices?

Esophageal varices are enlarged veins in the lining of the esophagus. They look similar to varicose veins on an individual's lower leg. These veins have weakened walls that can sometimes leak or break and bleed, which can be life-threatening. The most common cause of esophageal varices is high pressure in the portal vein, the large vein that brings blood to the liver from the intestines, known as portal hypertension.

### Cirrhosis of the Liver

The liver performs many necessary functions, including detoxifying harmful substances in your body, cleaning your blood, and making vital nutrients. To accomplish this, it acts like a giant filter. In fact, your liver filters more than a quart of blood every minute and over 300 gallons each day!

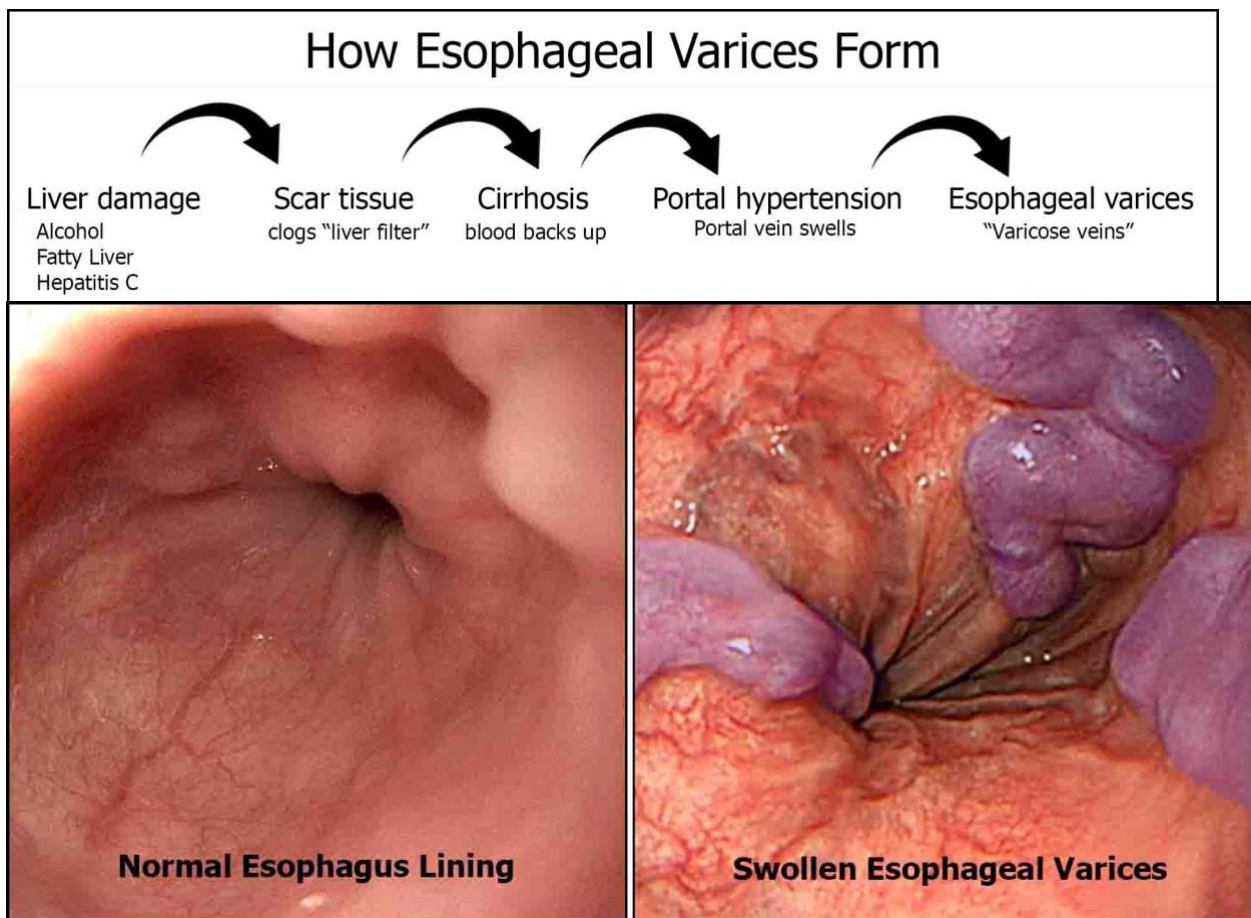
Any time an organ is injured, it tries to repair itself. And when this happens, scar tissue forms. Each time your liver is injured — whether by chronic alcohol consumption, excessive fat deposition, or another cause, such as Hepatitis C — it tries to repair itself. In the process, scar tissue forms. This scar tissue is permanent. It does not go away over time. As more scar tissue accumulates, it "clogs the liver filter." Excessive scar build-up is termed "cirrhosis of the liver." Excessive scar tissue from cirrhosis prevents normal blood flow through the "liver filter."



The liver is like a filter. Blood carrying nutrients from the intestines normally flows through the portal vein and through the liver before going back to the heart to be oxygenated and recirculated. If the liver clogged with scar tissue from cirrhosis, the blood can't flow through the liver and backs up into the spleen and esophagus. This backup of pressure called "portal hypertension" leads to an enlarged spleen and esophageal varices.

## Portal Hypertension

As you digest your food, nutrients are absorbed into the bloodstream for growth, energy, and repair. The PORTAL vein is a large vein in the abdomen responsible for carrying this nutrient-rich blood from your intestines to the liver. Portal hypertension refers to increased pressure in the portal vein system. When blood can't flow through the liver normally, the blood backs up like a dam. This backflow raises the pressure in other veins, including the portal vein. This increased pressure forces the blood to find new pathways, such as the smaller veins in the lower esophagus. These smaller veins cannot handle high blood flow and pressure, so they expand, forming varicose veins in the lower esophagus - called varices. These veins are fragile and can rupture easily, leading to severe bleeding. Cirrhosis is the most common cause of portal hypertension and subsequent esophageal varices.



## Symptoms of Esophageal Varices

Many people with esophageal varices don't have signs and symptoms unless they experience bleeding. The first sign of bleeding varices can be dramatic and includes vomiting blood (hematemesis), black or tarry stools (melena), and lightheadedness. These symptoms indicate a medical emergency. Call 911. Approximately 30–40% of patients with cirrhosis develop esophageal varices, and the risk of bleeding in a year is about 10–15%.

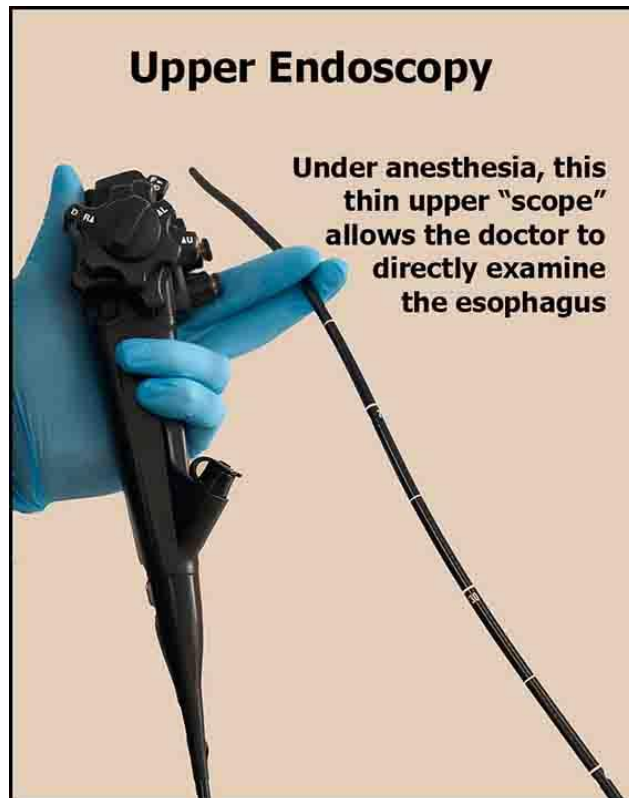
### **Diagnosing Esophageal Varices**

If you have cirrhosis, it is essential to screen for esophageal varices. The gold standard for diagnosing esophageal varices is an upper endoscopy. Done under sedation, upper endoscopy is a painless procedure that involves inserting a flexible tube with a camera down the throat to inspect the esophagus directly. Additionally, doctors may perform blood tests to assess liver function and imaging studies like ultrasound to evaluate blood flow through the liver and portal vein.

### **Treatment**

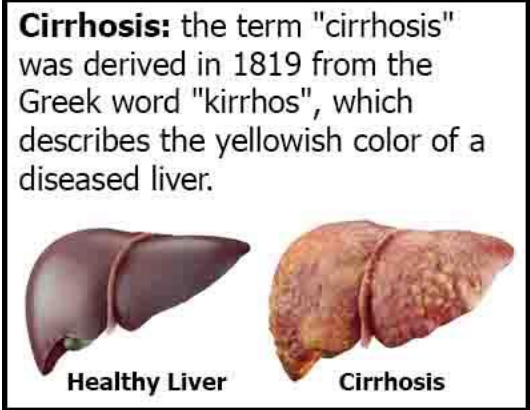
The liver damage caused by cirrhosis generally can't be undone. However, if liver cirrhosis is diagnosed early and the underlying cause is treated, further damage can be limited. In rare cases, it may be reversed. Managing cirrhosis and its complications is crucial to preventing the development and bleeding of esophageal varices. This can involve lifestyle changes such as abstaining from alcohol, eating a healthy diet, exercising regularly, and avoiding certain medications that can harm the liver. In some cases, if cirrhosis has progressed significantly, a liver transplant may be considered.

Once diagnosed, the treatment for esophageal varices primarily involves preventing bleeding. For those at risk but without bleeding, non-selective beta-blockers like propranolol or nadolol are often prescribed to lower portal pressure. In cases of active bleeding, urgent treatment is required, which may include medications like octreotide to reduce blood flow to the varices and endoscopic band ligation to tie off bleeding varices. In severe cases, a TIPS (transjugular intrahepatic portosystemic shunt) procedure may redirect blood flow and reduce pressure in the portal vein.



## Conclusion

In general, cirrhosis of the liver is caused by three main conditions: chronic alcoholism, fatty liver disease, and chronic hepatitis C. Esophageal varices are a serious complication of cirrhosis. Understanding the condition, its symptoms, and treatment options is crucial for patients and their caregivers. Individuals diagnosed with liver cirrhosis should be regularly screened for esophageal varices, even if they are asymptomatic, as early detection can significantly improve outcomes. With appropriate management, including lifestyle changes and regular medical care, the risks associated with esophageal varices can be reduced considerably.



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