

Cirrhosis

Functions of the liver

The liver is the largest organ in the body, it is the only internal organ that can regenerate itself and has many functions that are vital to life. Some of its many functions are:

- Processing all the nutrients from the blood that come from the stomach and bowel so that the body can use them to make all proteins in the body (with very few exceptions.)
- Breaks down any harmful toxins and processes medications.
- Produces bile which is essential for the digestion of our food.
- Stores vitamins, minerals and glucose.
- Produces factors which help our blood to clot.

What is cirrhosis?

Cirrhosis occurs as a result of prolonged damage to the liver. Over a period of time inflammation of the liver causes healthy liver cells to be replaced by scar tissue and nodules. As the amount of scarring increases the liver is not left with enough healthy cells to carry out its vital functions such as breaking down toxins, producing proteins and clotting factors. Blood flow through the liver is restricted as the liver has become hard and stiff and the pressure in the veins supplying the liver increases.

Causes

Anything that causes prolonged inflammation or damage to the liver may lead to cirrhosis. Common causes include:

- Alcohol abuse
- Viral hepatitis (chronic hepatitis B & C)
- Non alcoholic steatohepatitis (inflammation and fat not due to alcohol.)
- Bile duct diseases such as Primary sclerosing cholangitis and Primary biliary cirrhosis.
- Genetic diseases such as haemochromatosis and Wilsons.
- Autoimmune hepatitis.

Symptoms

Often people with cirrhosis may have no symptoms while the liver is still able to carry out its normal functions, this is called *compensated cirrhosis* as the liver is able to compensate for the damage. When the liver is no longer able to carry out its normal functions due to the amount of scar tissue this is called *decompensation*. The effects of cirrhosis are severe and life threatening:

- Fluid accumulates in the abdomen (ascites) and in the legs (oedema)
- Dilated veins in the oesophagus and stomach (varices) which can cause haemorrhage
- Confusion and altered consciousness that may lead to coma (encephalopathy)
- Blood clotting disorders
- Increased risk of liver cancer
- Malnutrition

Diagnosis

Liver specialists may use a combination of the patient's history, blood tests and imaging such as ultrasound or CT to give a provisional diagnosis of cirrhosis, but a liver biopsy will give the most accurate diagnosis with a measurement of pressure in the liver (HVPG – hepatic venous pressure gradient) at the same time. In some cases this is done with transjugular biopsy. Endoscopies will also help to diagnose cirrhosis as the doctor will use this to check for varices.

Treatment

Cirrhosis is an irreversible condition as the liver is no longer able to regenerate itself efficiently. If cirrhosis is diagnosed in its early stages then treating the cause of the damage (for example abstinence in alcoholic liver disease or treating viral hepatitis) may stop the cirrhosis progressing and in very early cirrhosis some scarring is improved. If the cirrhosis is more advanced then treatment may be focused on the presenting complication, such as treating ascites with water tablets and draining the fluid from the abdomen. Varices can be helped by tablets to lower the blood pressure in the portal vein and using endoscopy to band the varices. Certain laxatives can be used to help encephalopathy. Anyone with cirrhosis should be under the care of a liver specialist who is experienced in the care and monitoring of patients with liver damage; many patients also need monitoring for the development of liver cancer.

If you would like more information on cirrhosis then please contact the Liver Unit at the Wellington Hospital on 0207 586 7156 or via e-mail on David.Morrison@HCAHealthcare.co.uk