RIVER CITY
GASTROENTEROLOGY

Liver Cirrhosis

Understanding liver scarring and its management

WHAT IS CIRRHOSIS?

Cirrhosis is a serious condition in which the liver slowly deteriorates due to long-term injury. Healthy liver tissue is replaced by scar tissue, partially blocking blood flow and impairing the liver's ability to:[1,2]

- Fight infections and remove bacteria from the blood
- Process nutrients, hormones, and medications
- Make proteins needed for blood clotting
- Produce bile to help absorb fats and fat-soluble vitamins

A healthy liver can repair mild damage. In advanced cirrhosis, this is no longer possible. Cirrhosis is a leading cause of death by disease in many Western countries. It is more common in men than women.

> **IMPORTANT**
> Cirrhosis is not caused by trauma or short-term injury. It develops over years of ongoing damage.

WHAT CAUSES CIRRHOSIS?

Common causes include:[1,2,5]

- **Heavy, long-term alcohol use**: 2-3 drinks/day for women or 3-4 drinks/day for men over several years can cause scarring
- **Chronic hepatitis C**: ongoing liver inflammation leading to scarring
- **Metabolic Dysfunction-Associated Steatotic Liver Disease (MASLD)**: fat accumulation in the liver, linked to obesity and diabetes[5]
- Chronic hepatitis B or D
- **Autoimmune hepatitis**: the immune system attacks liver cells (approximately 70% of cases are in women)
- **Bile duct diseases**: conditions such as primary biliary cirrhosis and primary sclerosing cholangitis block or damage bile flow
- **Inherited conditions**: haemochromatosis (iron overload), Wilson disease (copper overload), cystic fibrosis, alpha-1 antitrypsin deficiency
- Other causes: prolonged exposure to certain drugs or toxins, parasitic infections, or recurrent episodes of decompensated heart failure with liver congestion

SYMPTOMS

Many people have no symptoms in the early stages. As the disease progresses:

- Weakness and fatigue
- Loss of appetite, nausea, and vomiting
- Weight loss
- Abdominal pain and bloating
- Itchy skin

- Spider-like blood vessels visible on the skin

COMPLICATIONS OF CIRRHOSIS

Fluid build-up

Fluid can accumulate in the legs (oedema) and abdomen (ascites). Ascites can become infected (bacterial peritonitis), which is a medical emergency.[1]

Easy bruising and bleeding

The liver cannot produce enough clotting proteins, so a person bruises and bleeds more easily.

Portal hypertension

Scarring blocks blood flow through the liver, increasing pressure in the portal vein. This can cause enlarged blood vessels (varices) in the oesophagus or stomach that can rupture and bleed heavily (a medical emergency). The spleen may also enlarge.[1]

Jaundice

When the liver cannot filter bilirubin from the blood, the skin and whites of the eyes turn yellow and urine darkens.

Hepatic encephalopathy

Toxins build up in the brain, causing confusion, personality changes, memory loss, and changes in sleep patterns.[1]

Insulin resistance and type 2 diabetes

Cirrhosis interferes with insulin function, which can lead to type 2 diabetes.

Liver cancer

People with cirrhosis are at higher risk of hepatocellular carcinoma (liver cancer). Regular monitoring with an ultrasound every 6 months is recommended.[1,2]

Kidney and lung failure

Advanced cirrhosis can trigger hepatorenal or hepatopulmonary syndrome.

DIAGNOSIS

- Medical history, physical examination, and blood tests
- Imaging: ultrasound, CT scan, or MRI to assess the liver
- Liver biopsy: a needle takes a small tissue sample for microscopic examination

Severity is measured using the MELD score (based on clotting tests, bilirubin, and kidney function). Scores range from 6 (best prognosis) to 40 (most severe).[1]

TREATMENT

General measures

Avoid all alcohol and illicit drugs completely: both cause further liver damage.[1,2]

Eat a well-balanced, nutritious diet. A low-sodium (low-salt) diet is recommended if ascites develops.

Do not eat raw shellfish: it can carry bacteria dangerous to people with liver disease.

Consult your doctor before taking any supplements, vitamins, or medications.

Managing complications

- Fluid build-up: diuretics (water tablets) are prescribed. Large amounts of abdominal fluid may be drained and tested for infection. Antibiotics may prevent peritonitis.
- Portal hypertension and varices: beta-blockers reduce bleeding risk. If varices bleed, emergency endoscopy with rubber band ligation is performed.
- Hepatic encephalopathy: lactulose (a laxative) clears toxins from the bowel. Antibiotics may be added. Dietary protein may be temporarily reduced.
- Underlying causes: antiviral medications for hepatitis; corticosteroids for autoimmune hepatitis.

Liver transplant

When complications can no longer be managed with treatment, a liver transplant is considered. The diseased liver is replaced with a healthy donor organ. Survival rates have improved significantly in recent years. Candidates must undergo a thorough evaluation before being added to a transplant waiting list.[1,2]

RESOURCES AND SUPPORT

- **Liver Foundation Australia:** www.liver.org.au - Information and support for people with liver disease including cirrhosis
- **Australian Liver Association:** www.australianliver.com.au - Find a liver specialist and information on MASLD, hepatitis, and cirrhosis
- **Hepatitis Australia:** 1800 437 222 | www.hepatitisaustralia.com - Support for people with hepatitis-related liver disease
- **Gastroenterological Society of Australia (GESA):** www.gesa.org.au - Find clinical guidelines for cirrhosis management
- **Transplant Australia:** (02) 9568 1488 | www.transplant.org.au - Information and support for people considering or awaiting liver transplant
- **FARE (Foundation for Alcohol Research and Education):** (02) 6122 8600 | www.fareaustralia.com.au - Alcohol health resources and support services

REFERENCES

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