

## Introduction

The term cirrhosis is from the Greek word *scirrhus* to describe the orange or tawny surface of the liver seen at autopsy. There is diffuse fibrosis and the development of widespread nodules. The process can take from weeks to many years to develop. HCV can take 30-40yrs to progress to cirrhosis.

## Epidemiology

- The disease is often silent and may be unsuspected until diagnosed post mortem.
- Worldwide, the largest cause of cirrhosis is hepatitis B with hepatitis C
- In western societies, alcohol is a major component.
- The rise in deaths from cirrhosis amongst younger people is a worrying trend
- The related binge drinking patterns may also contribute to the assoc. mortality.

## Causes of cirrhosis

- Alcohol abuse ± hepatitis C
- Chronic hepatitis (e.g. HBV, HCV)
- CCF or TR (rare now)
- Primary biliary cirrhosis
- Chronic biliary obstruction (rare)
- Haemochromatosis
- Tyrosinaemia
- Wilson's disease
- Alpha-1-antitrypsin deficiency
- Sarcoidosis
- Type IV glycogen storage disease
- Budd-Chiari syndrome
- Drugs (e.g. methotrexate and amiodarone)
- Certain herbal remedies.
- Cryptogenic

## Presentation

### Symptoms

Many cases are completely asymptomatic and only discovered on routine blood test. It may present with vague symptoms of malaise, anorexia and weight loss.

In advanced, decompensated liver disease, presentation may include: oedema, ascites, easy bruising, poor concentration and memory, or complications such as bleeding oesophageal varices or spontaneous bacterial peritonitis.

### Signs

Physical signs are also very variable and depend upon the progress of the disease.

- Cutaneous features of cirrhosis include:
 

Jaundice	Skin telangiectasias	Disappearance of lunulae
Spider naevi	Petechiae or purpura	Finger clubbing
Bruising	Hair loss	
Palmar erythema	White nails	
- General Signs:
 

Tachycardia	Ascites	Collateral umbilical vessels
↑Pulse pressure	Gynaecomastia	Enlarged spleen
Orthodeoxia	Testicular atrophy or	Nodular liver
Low grade fever	amenorrhoea	Asterixis
Oedema		Increased plantar reflexes

## Investigations

### Blood tests:

- FBC, U&E, LFTs, Red cell folate, Ferritin, Coags,
- Hepatitis B & C viral antibody screen
- Autoantibody screen for anti-nuclear factor and anti-smooth muscle. Anti-mitochondrial antibodies are a very strong indicator of primary biliary cirrhosis
- Alpha-1-antitrypsin level, caeruloplasmin and urinary copper for Wilson's disease
- Check alpha feto-protein as a screen for hepatocellular carcinoma

### Imaging: USS ± CT

### Liver Biopsy

## Management

- Retard progression e.g. copper chelation in Wilson's or venesection in haemochromatosis.
- Anti-viral agents may be helpful in hepatitis B or C.
- Cease all alcohol
- Optimise diet ± vitamin supplements (incl vit K)
- Liver transplantation if no CI and decompensation, Child-Pugh score  $\geq 7$ , or Hep Ca.

## Complications

- Portal hypertension
- Ascites
- Encephalopathy
- Hepatorenal syndrome
- Hepatocellular carcinoma

## Prognosis

The Child-Pugh classification system offers important and validated prognosis.

Criterion	Score 1 point	Score 2 points	Score 3 points
Serum albumin (g/L)	$>3.5$	3.0-3.5	$<3.0$
Serum bilirubin (g/dL)	$<2.0$	2.0-3.0	$>3.0$
PTT (s) or INR	PTT=1-4 or INR $<1.7$	PTT=4-6 or INR=1.7-2.3	PTT $>6$ or INR $>2.3$
Ascites	none	moderate	severe
Encephalopathy	none	mild	severe

Score 5-6 = Class A, Score 7-9 = Class B, Score  $\geq 10$  = Class C

Patients with Class A or B have a 5-years survival rate of 70% to 80%.

Class C patients have a 1-year survival around 50%

Ascites, albumin  $<3.2$  gm/l, and a recent episode SBP are each associated with a one-year survival of  $\leq 50\%$ .

## Prevention

- Worldwide the most important factor is immunisation against hepatitis B.
- There is no HCV vaccine. Some treatments delay progress and EtOH must be stopped.
- Hepatitis C is becoming more important as a cause of cirrhosis in western societies.
- Sensible drinking is essential even if currently apparently unrealistic.
- Beware of hepatotoxic medications, including herbal remedies.
- Preventive care can significantly reduce the progression of liver disease.
- Weight reduction and exercise can improve liver function in patients with fatty liver.