




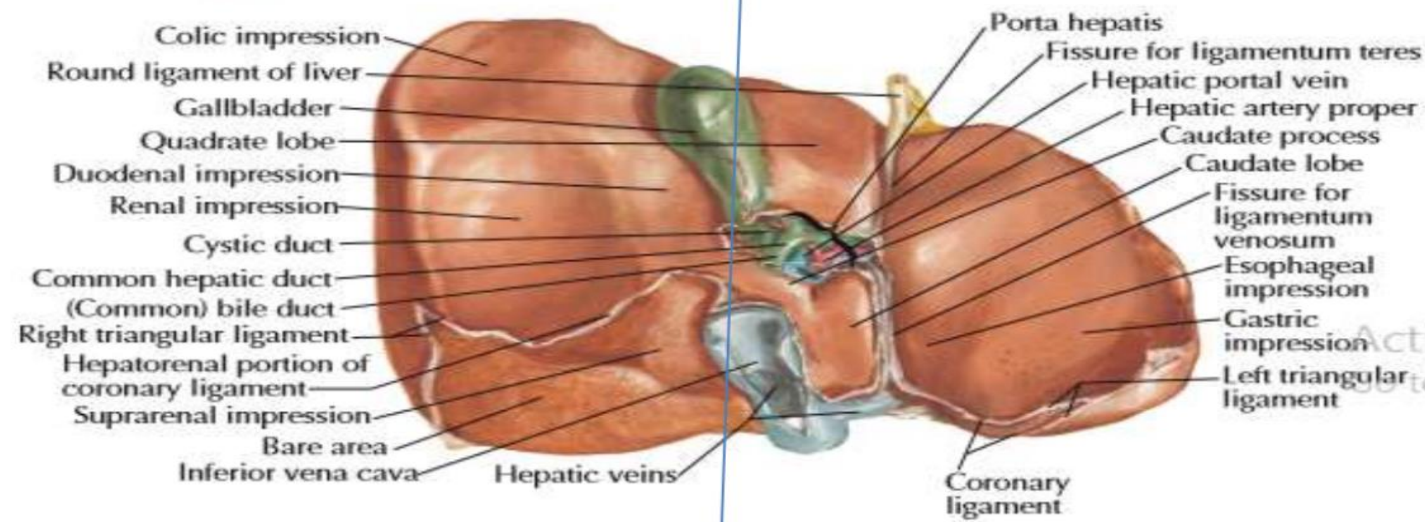
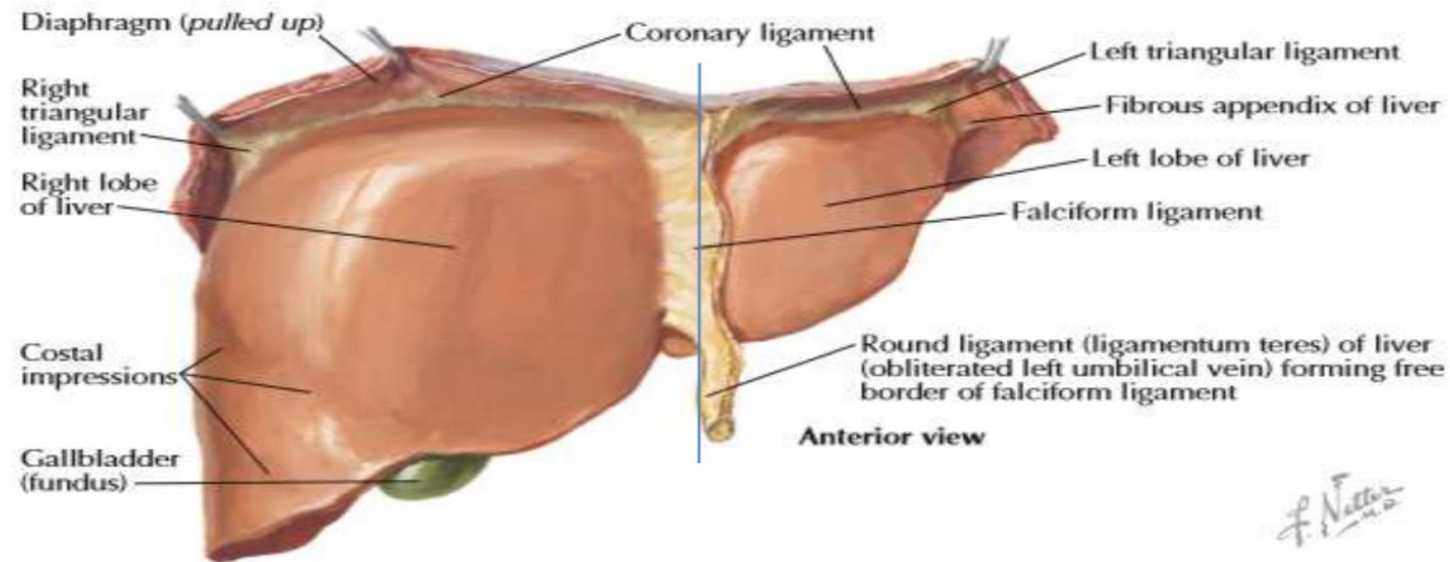
THE LIVER

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Liver anatomy

There are two anatomical & functional lobes with a separate blood supply, bile duct and venous drainage. Blood supply is 80% portal vein and 20% hepatic artery. The liver regenerates to 90–100% of its previous volume following resection.





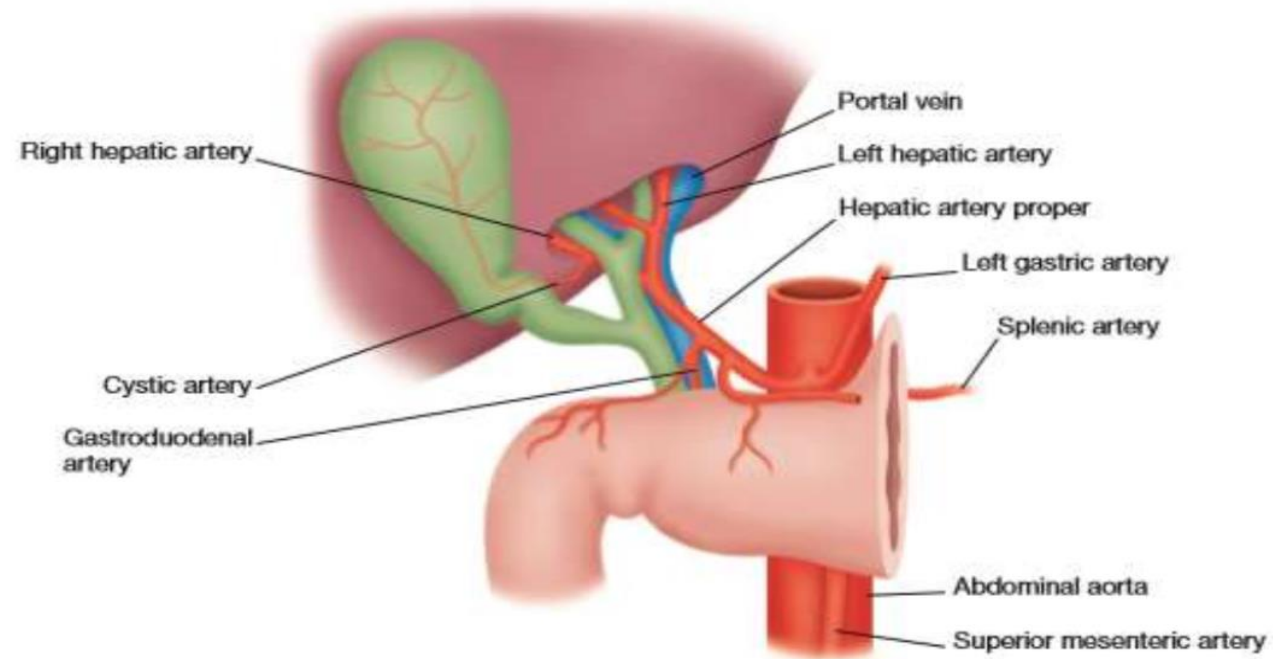



Figure 69.2 Anatomy of the liver hilum.

Main functions of the liver

- 1- Correction of lactic acidosis
- 2- Synthesis of clotting factors
- 3- Glucose metabolism, glycolysis and gluconeogenesis.
- 4- Protein catabolism
- 5- Bilirubin formation from haemoglobin after breakdown of red cells in the spleen.
- 6- Drug and hormone metabolism and excretion.
- 7- Removal of gut endotoxins and foreign antigens.
- 8- Vitamin and mineral storage, including A, D, E, K and B12.
- 10- Immunological function as part of the mononuclear phagocyte system.
- 10- Albumin production for transport of fatty acids, steroids and waste products.
- 11- Angiotensin synthesis

Clinical signs and symptoms of liver disease

The most common include

- 1- Jaundice
 - 2- Drowsiness.
 - 3- Abdominal pain/swelling.
 - 4- Nausea, vomiting.
 - 5- tremors.
 - 6- Malaise.
 - 7- Confusion and disorientation.
 - 8- Bruising.
 - 9- Peripheral oedema.
 - 10- Foetor Hepaticus (strong musty smell to the breath).
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Routine blood tests for the assessment of liver function:

- 1- Bilirubin (0.3–1.2 mg/dL)
- 2- Alkaline phosphatase (ALP) 30–140 IU/L biliary obstruction
- 3- Aspartate transaminase (AST) 5–40 IU/L hepatocellular damage
- 4- Alanine transaminase (ALT) 5–40 IU/L hepatocellular damage
- 5- Gammaglutamyl transpeptidase (GGT) 10–48 IU/L alcohol intake
- 6- Albumin 35–50 g/L (3.5–5 g/dL)
- 7- Total protein 60–85 g/L (6–8.5 g/dL)
- 8- Prothrombin time (PT) 12–16 s

VIRAL LIVER INFECTIONS

1- Hepatitis A virus

is transmitted via a fecal-oral route through contaminated water. It can also be transmitted through close contact.

Unlike other viral hepatitis diseases, hepatitis A virus does not cause chronic liver disease. It is a frequent cause of food-borne infection.



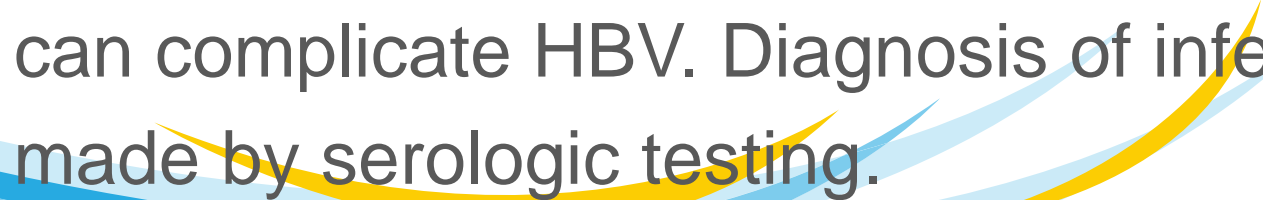
2- HEPATITIS B VIRUS

Hepatitis B virus (HBV) is a small virus.

*Presentation and Diagnosis: The incubation period is 60 to 150 days (average, 90 days). Symptoms are fatigue, nausea, vomiting, malaise, abdominal pain, and jaundice. Fulminant liver failure is rare.


Chronic hepatitis B can result in cirrhosis.

Complications including ascites, hepatic encephalopathy, or variceal bleeding. Liver cancer can complicate HBV. Diagnosis of infection can be made by serologic testing.



3.hepatitis C

Hepatitis C infection is common worldwide; in the Far East, Mediterranean countries, and some areas of Africa and Eastern Europe. Occurs in injection drug users and hemophilia patients. Acute infection has an incubation period of 6 to 10 weeks.

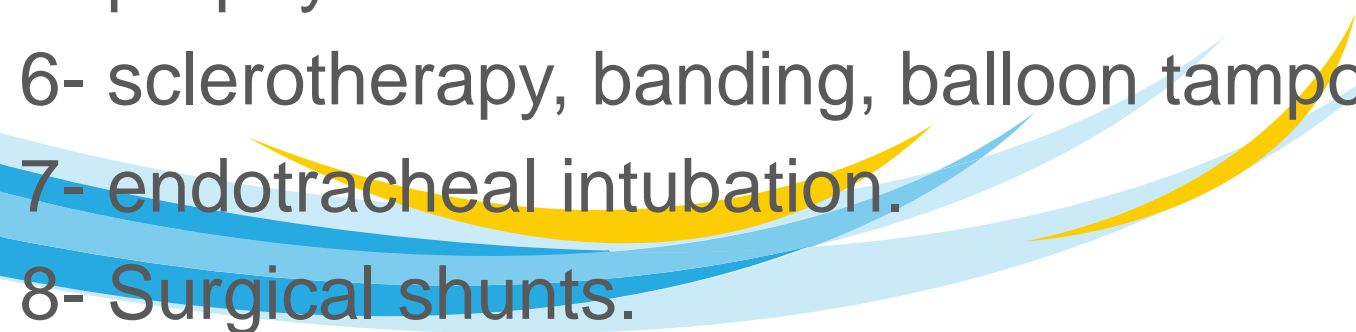


PORTAL HYPERTENSION

Variceal Bleeding

Mx

Resuscitation

- 1- Admission to an intensive therapy unit.
 - 2- Venous access obtained through two large-bore peripheral cannulae and resuscitation commenced with blood
 - 3- Ten milligrams of vitamin K intravenously and FFP.
 - 4- vasoconstrictors, such as terlipressin, octreotide and somatostatin
 - 5- prophylactic antibiotics.
 - 6- sclerotherapy, banding, balloon tamponade.
 - 7- endotracheal intubation.
 - 8- Surgical shunts.
 - 9- liver transplantation.
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Infections of the liver

- Pyogenic liver abscesses
- Parasitic infections causing liver abscess and biliary tract damage (Amoebic liver abscess).



Hydatid disease


Human echinococcosis (hydatidosis, hydatid disease) is a parasitic disease caused by the larval stages of cestodes (tapeworms) of the genus *Echinococcus*.

1-Medical treatment (Albedazol tab)

2- Surgical intervention is occasionally required when medical management fails, and options range from liver resection or local excision of the cysts to deroofing with evacuation of the contents.

LIVER TUMOURS

Benign tumours

- 1- Hepatic adenoma is a benign liver tumour seen almost exclusively in women aged between 25 and 50 years.
 - 2- Focal nodular hyperplasia is an unusual but not uncommon benign condition of unknown aetiology.
 - 3- Haemangiomas are the most common benign liver lesions.
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Malignant liver tumours

❖ Primary

- 1- Neuroendocrine/carcinoid tumours
- 2- Hepatocellular carcinoma

❖ Secondary

- 1- Colorectal liver metastases



SUMMARY

The liver is a highly complex organ found only in vertebrates that is responsible for over 500 individual functions. It is located in the right upper quadrant, protected by the ribs, and weighs on average 1.5 kg. It is divided by the middle hepatic vein into two lobes, with the larger right lobe generally representing 60% by volume. The parenchyma is covered by a thin capsule (Glisson's capsule). Surgery for hepatic disease evolved slowly because of the complexity of hepatic function and anatomy.

thank you

