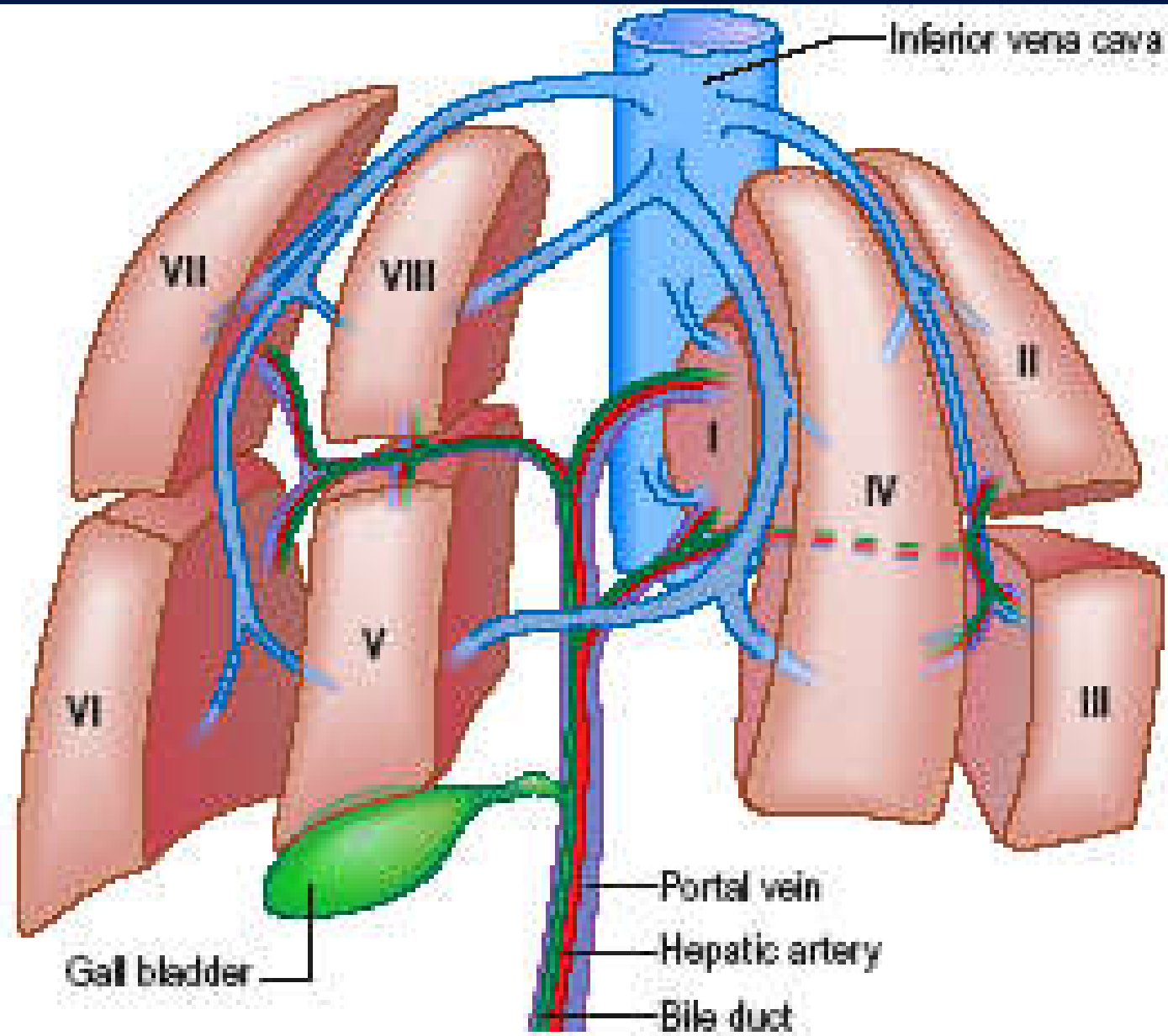


Hepatology

By

Dr. Hamdy Saad, MD, PhD





SYMPTOMS OF LIVER DISEASE

- **Acute liver disease**
 - This may be asymptomatic and anicteric.
 - Symptomatic disease, which is often viral, produces generalized symptoms of malaise, anorexia and fever.
 - Jaundice may appear as the illness progresses.



Chronic liver disease

- Patients may be asymptomatic or complain of non-specific symptoms, particularly fatigue.
- Specific symptoms include manifestations of liver cell failure if present.



SIGNS OF LIVER DISEASE

- **Acute liver disease**
 - There may be few signs apart from jaundice and an enlarged liver.
 - In the cholestatic phase of the illness, pale stools and dark urine are present.



Questions related to viral hepatitis

- Blood transfusions (especially if before 1990)
- Intravenous drug use
- Sexual practices:
 - Anal-receptive intercourse
 - Sex with a prostitute
 - History of sexually transmitted disease
 - Multiple sexual partners (>5/year)
 - Intercourse with individuals with hepatitis B or C
- Contact with individuals with jaundice
- Changes in taste and smell
- Needlestick exposure
- Work in renal dialysis units
- Surgeons in trauma units or operating rooms exposed to users of intravenous drugs
- Shared razors or toothbrushes
- Body piercing (ears, nose)
- Tattoos
- Intranasal cocaine use

Special risk factors for hepatitis A (if not previously immunized)

- Travel to endemic areas
- Ingestion of raw shellfish (harvested from contaminated waters)
- Exposure to patients in places where clusters of hepatitis may occur (e.g., institutions, prisons, preschool nurseries)

Medication-related questions

- Review all prescription medications
- Ask specifically about all over-the-counter drugs
- Ask specifically about vitamins (especially vitamin A)
- Ask specifically about any foods, herbal preparations, and home remedies purchased in a health food store

Alcohol use questions

- Obtain detailed *quantitative* history of both recent and previous alcohol use from the patient and family members
- Question whether patient has experienced withdrawal symptoms or driving-under-the-influence convictions
- CAGE (cut down, annoyed, guilty, eye opener) criteria (see text)
- Check for evidence of alcohol-associated illnesses (pancreatitis, peripheral neuropathy)

Miscellaneous questions

- Pruritus (suggests cholestasis, either intrahepatic or extrahepatic)
- Evolution of jaundice (dark urine, light stools)
- Recent changes in menstrual cycle (amenorrhea suggests chronic liver disease, often cirrhosis)
- History of anemia, sickle cell disease, known hemoglobinopathy, or artificial heart valves
- Symptoms suggestive of biliary colic or chronic cholecystitis
- Family history of liver or gallbladder disease
- History of inflammatory bowel disease (should raise the question of primary sclerosing cholangitis and receipt, if any, of blood transfusions)
- Occupational history and, specifically, exposure to hepatotoxins

Most common causes

- Decompensation of chronic liver disease
- Alcoholic hepatitis
- Gallbladder disease (cholecystitis, choledocholithiasis)
- Sepsis/abnormal hemodynamics
- Malignancy (pancreatic cancer, liver metastases)

Common causes

- Viral hepatitis
- Drug- or toxin-induced liver disease (especially acetaminophen)
- Hemolysis (especially sickle cell anemia)
- Postoperative (multiple factors)
- Primary biliary cirrhosis
- Primary sclerosing cholangitis

Less common causes

- Hodgkin disease and non-Hodgkin lymphoma
- Total parenteral nutrition
- Gilbert syndrome; while unconjugated hyperbilirubinemia ≥ 1.2 mg/dL occurs in 2–5% of the population, serum bilirubin levels infrequently exceed 3.0 mg/dL and detectable jaundice is unusual

Causes and presumed sites of intrahepatic cholestasis

- Liver cell (hepatocellular):
 - Viral hepatitis
 - Alcoholic liver disease
 - Chronic active liver disease
 - α_1 -Antitrypsin deficiency
- Hepatocanalicular:
 - Drugs (androgens, phenothiazines)
 - Sepsis
 - Postoperative state
 - Total parenteral nutrition
 - Hodgkin and non-Hodgkin lymphoma
 - Amyloidosis
 - Sickle cell anemia
 - Toxic shock syndrome
- Ductular:
 - Sarcoidosis
 - Primary biliary cirrhosis
- Bile ducts:
 - Intrahepatic biliary atresia
 - Caroli disease
 - Cholangiocarcinoma
 - Primary sclerosing cholangitis
- Recurrent cholestasis:
 - Benign recurrent intrahepatic cholestasis
 - Recurrent jaundice of pregnancy
 - Dubin-Johnson syndrome

Abdominal examination

- Hepatomegaly
- Splenomegaly
- Ascites
- Prominent abdominal collateral veins
- Bruits and rubs
- Abdominal masses
- Palpable gallbladder

Signs of "decompensated" hepatocellular disease

- Jaundice
- Ascites
- Oliguric hepatic failure
- Hepatic encephalopathy:
 - Fetor hepaticus
 - Asterixis
 - Behavioral alterations (confusion, disorientation, failure to complete simple mental tasks)

INVESTIGATIONS

■ Blood tests

(a) Liver 'function' tests:

- (i) serum albumin and bilirubin
- (ii) prothrombin time

(b) Liver biochemistry:

- (i) serum aspartate and alanine aminotransferases
– reflecting hepatocellular damage
- (ii) serum alkaline phosphatase, γ -glutamyl transpeptidase – reflecting cholestasis
- (iii) total protein

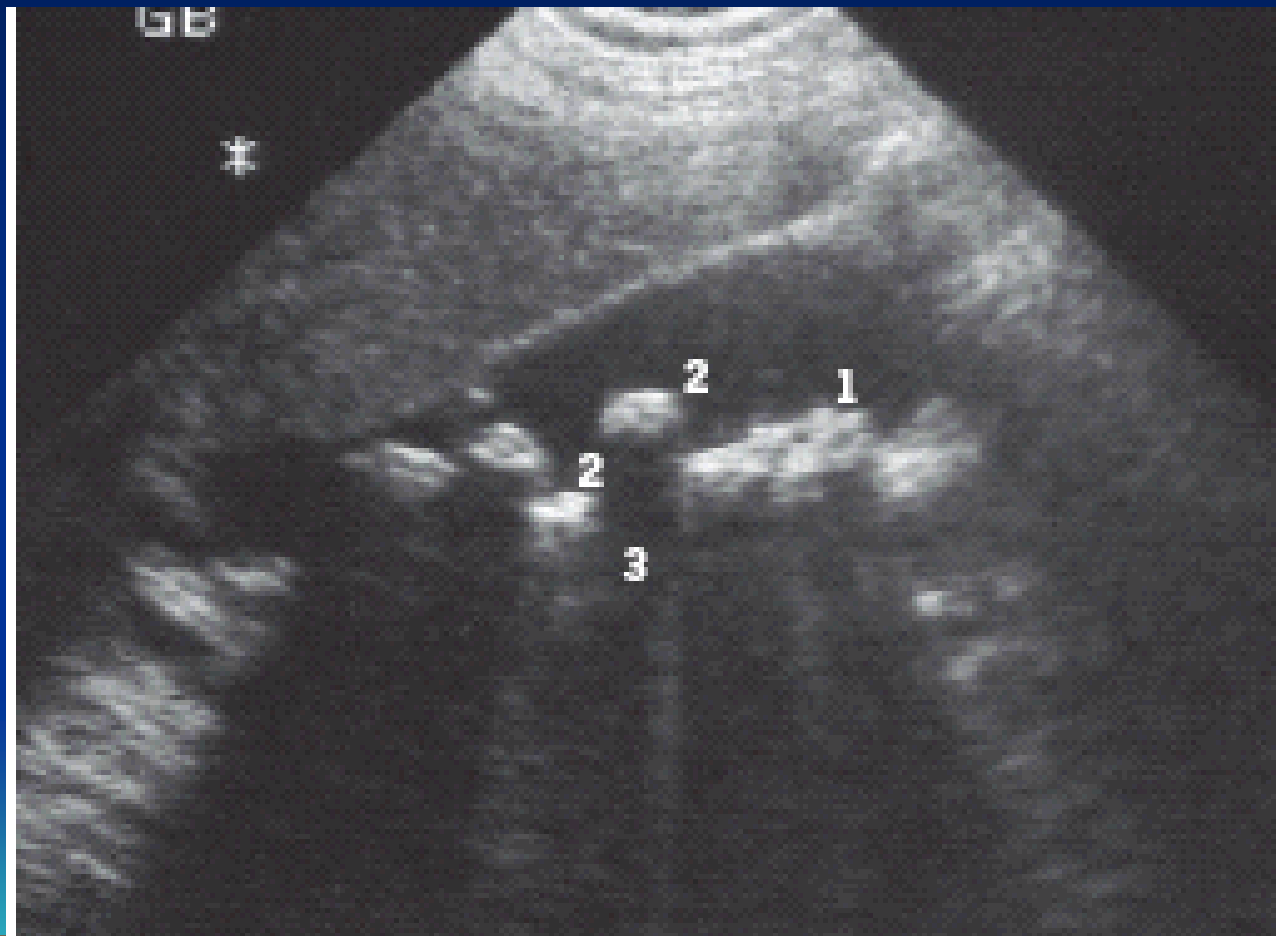
(c) Viral markers

(d) Additional blood investigations; haematological, biochemical, immunological, markers of liver fibrosis and genetic analysis.

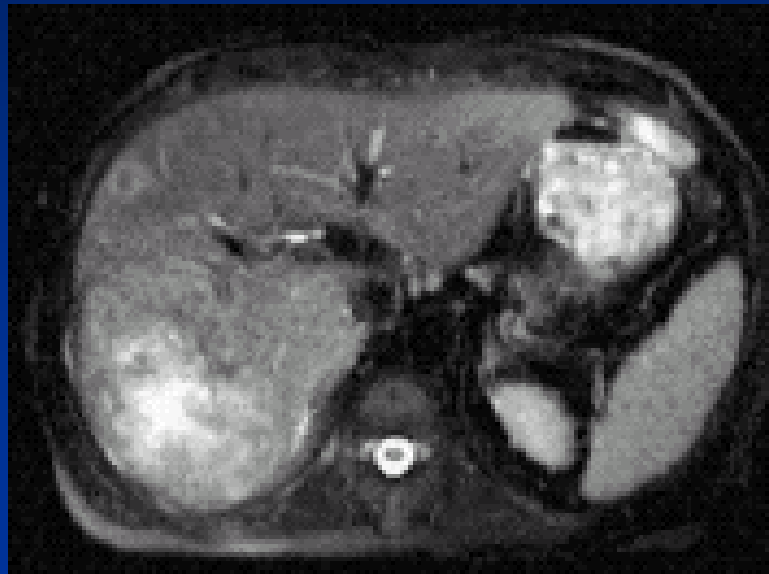
Imaging techniques



Ultrasound examination



MRI



PET

