Chronic liver disease

Learning outcomes

- LO1: Definition of chronic liver disease
- LO2: Causes of chronic liver disease
- LO3: Clinical features of chronic liver disease
- LO4: Diagnosis of chronic liver disease
- LO5: Staging of chronic liver disease
- LO6:Treatment of chronic liver disease
- LO7: Complications of chronic liver disease

LO1: CLD

- A cirrhosis is consequence of CLD characterized by replacement of liver tissue by fibrosis and regenerative nodules leads to irreversible loss of liver function and its complications
- Micronodular - alcohol
- Macronodular - chronic viral hepatitis

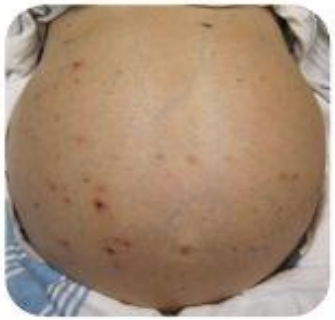
LO2: Causes

- Alcoholic liver disease
- Chronic viral hepatitis- C or B
- Autoimmune hepatitis
- PBC and PSC
- Hemochromatosis, Wilson's disease
- α1-antitrypsin deficiency
- Cystic fibrosis

LO3: Stigmata of CLD

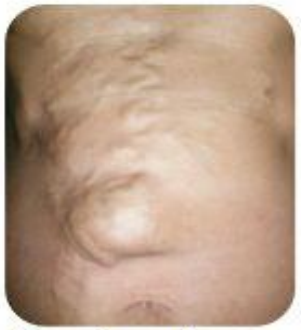
- Pallor, jaundice
- Scratch marks
- Muscle wasting
- Parotid enlargement
- Xanthelasma
- Clubbing
- Palmar erythema
- Dupuytren’s contracture
- Spider nevi
- Petechiae, purpura
- Decreased body hair
- Gynecomastia
- Testicular atrophy
- Caput medusa
- Edema, ascites
- Splenomegaly
- Asterixis
- Fetor hepaticus

Chronic Liver Disease

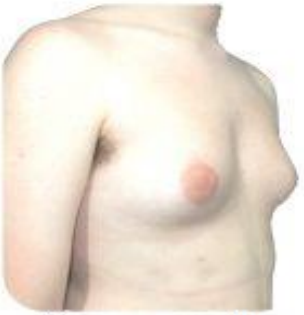


Hepatomegaly and **Ascites**

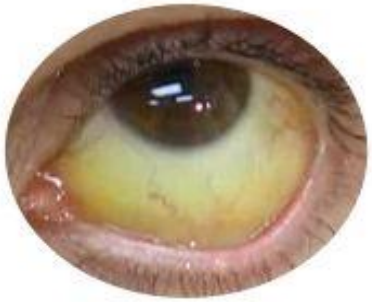
Cirrhosis



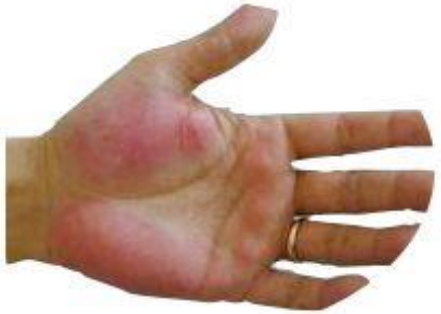
Caput medussae
(dilated veins around the umbilicus due to portal htn)



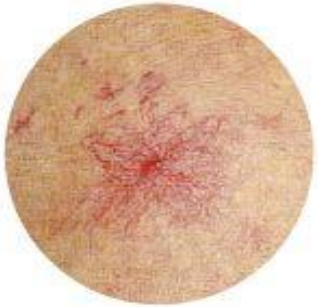
Gynecomastia
(impaired breakdown of estrogens)



Icterus
(increased bilirubin due to dysfunction of bilirubin metabolism)



Palmar erythema
(impaired breakdown of sex hormones)



Spider nevi
(isolated telangiectasias)

Ecchymosis
(defective coagulation)

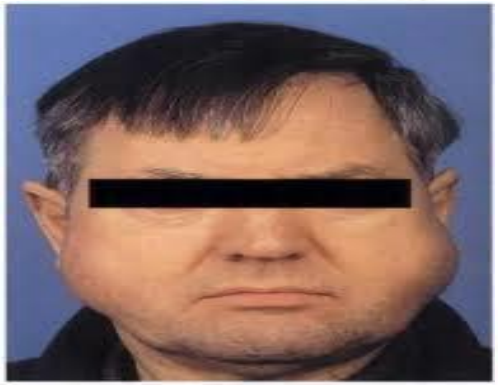
Leukonychia
(hypoalbuminemia)

Finger clubbing

Asterixis
(abnormal motor fct due to faculty metabolism)

FECTOR HEPATICUS

(characteristic odor due to volatile aromatic compounds)



Itching sensation

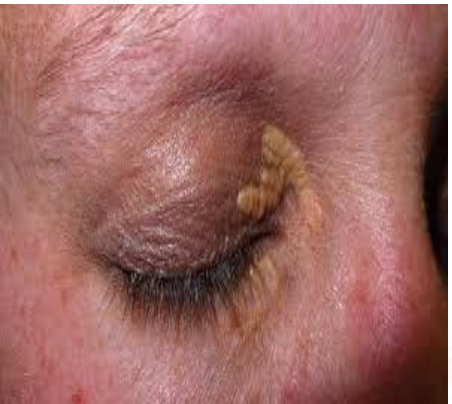
Swelling in the lower legs

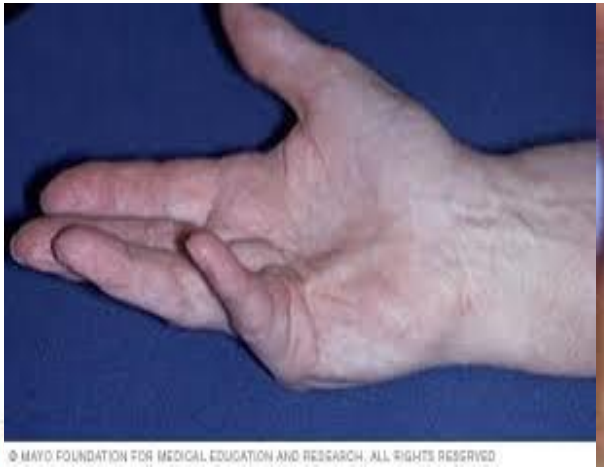
Jaundice

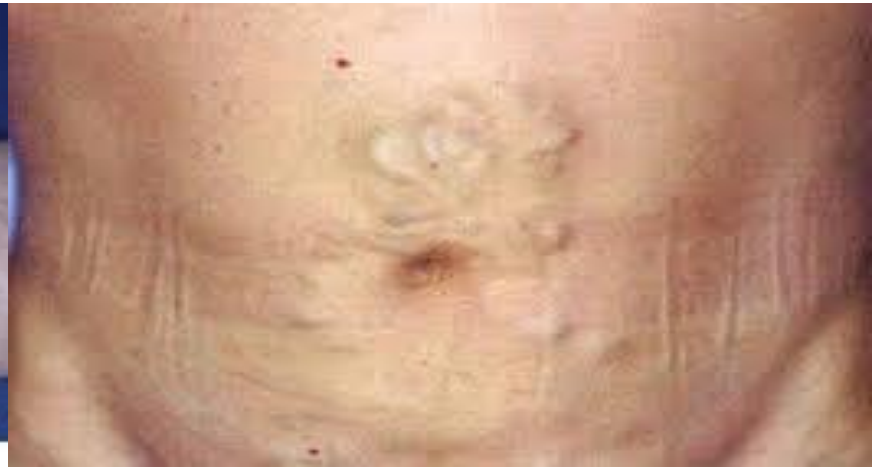
Getting bruised easily

Fluid build up

Development of blood vessel







LO4: Investigation

- LFT
- ± elevated SGPT, alkaline phosphatase, GGT
- Increased bilirubin
- Low albumin, increased globulins
- Increased PT/INR
- Thrombocytopenia
- Low sodium
- Ultrasound- shrunken liver, ± portal HT/HCC
- OGD- varices
- Liver biopsy- but not always necessary

LO5: Staging of CLD

- Based on Child- Turcotte -Pugh scoring system
- Includes- each given score of 1-3

1. Ascites
2. Encephalopathy
3. Bilirubin
4. Albumin
5. PT/INR

- Class- total score

A. A- 5-6
B. B- 7-9
C. C- 10-15

LO6: Treatment

General measure

To retard progression and reduce complications

- Abstinence from alcohol
- Vaccination- Hepatitis C and B
- Treat underlying cause

LO6: Liver transplantation

- Option in ESLD
- Donor, cost, technical expertise
- GVHD, recurrence

LO7: Variceal bleed

- Varices- dilated submucosal veins, in esophagus or stomach
- Cause- portal HT
- Causes ~80% of UGI bleed in CLD
- Risk factors for bleed-
  - Size of varices
  - Severity of liver disease
  - Continued alcohol intake
- Dx- OGD

LO7: Complications

- Ascites
- Spontaneous bacterial peritonitis- SBP
- Variceal bleed
- Hepatic encephalopathy
- Hepatorenal syndrome
- Hepatocellular carcinoma- HCC

LO7: Ascites

- Diagnostic paracentesis- SAAG >1.1
- Cause-
  - Portal HT
  - Hypoalbuminemia
  - Raised renin-angiotensin-aldosterone levels causing Na retention by kidneys

LO7: Ascites- treatment

- Salt ± fluid restriction
- Diuretics- Spironolactone ± Furosemide
- Large volume paracentesis-
  - With massive or refractory ascites
  - >5 lit. fluid removed
  - Albumin- ~8 gm/lit. fluid removed
  - Avoid hepatorenal syndrome
- TIPS- transjugular intrahepatic portosystemic shunt
  - For refractory ascites or refractory variceal bleed
  - Preferred for short duration, pending liver transplant
  - Increases risk of hepatic encephalopathy, shunt occlusion/infection

LO7: SBP

- symptoms
- Abdominal pain, fever, worsened ascites and encephalopathy
- Dx- paracentesis
- PMN >250/ microliter
- Ascetic fluid culture- bedside, commonly Gram –ve bacteria
- Rx- Cefotaxime/Ciprofloxacin
- Prophylaxis- Ciprofloxacin/Co-trimoxazole
- Prognosis- 30% mortality during hospital stay & 70% within 1 year

LO7: Treatment of Variceal bleed

- Acute-
  - Resuscitation
  - FFP, platelets, Vit. K
  - Terlipressin/ octreotide
  - Lactulose
  - →OGD→
  - Banding/ sclerotherapy
  - Balloon tamponade
  - TIPS
  - Surgery
- Prevent rebleed-
  - Band ligation- over repeated sessions
  - Non-selective β- blockers- Propranolol/ Nadolol
  - TIPS- for recurrent bleed or bleed from gastric varices
  - Surgery- portosystemic shunts
  - Liver transplantation

LO7: Hepatic encephalopathy

- Confusion →drowsiness →stupor → coma
- Ammonia is an identified/measurable toxin
- Precipitants-
  - GI bleed
  - Constipation
  - Alkalosis, hypokalemia
  - Sedatives
  - Paracentesis → hypovolemia
  - Infection
  - TIPS
- Dx- clinical- s/s of CLD
  with asterixis and altered sensorium

LO7: Hepatic encephalopathy

- Correct underlying precipitating factor
- Avoid sedatives
- Restrict dietary protein intake
- Lactulose- 2-3 loose stools a day
- Oral antibiotic- Metronidazole, Rifaximin, Neomycin

LO7: Hepatorenal syndrome

- Occurs in patients with advanced CLD & ascites
- Marked by renal impairment in the absence of any renal parenchymal disease or shock
- Oliguria, Hyponatremia & low urinary Na accompany raised creatinine
- Albumin infusion, with vasoconstrictors (norepinephrine, terlipressin /ornipressin, octreotide) may help
- Liver transplantation is Rx of choice

LO7: Hepatocellular carcinoma

- Associated with cirrhosis in ~80%
- Suspect if- worsening of CLD, enlarged liver, hemorrhagic ascites, weight loss
- Dx-
  - CT/MRI with contrast- vascular SOL in cirrhotic liver
  - Raised AFP- α-fetoprotein
  - Liver biopsy
- Rx-
  - Early-resection
  - Advanced- liver transplantation or local palliative treatment
- Screening- US and AFP q 6 months