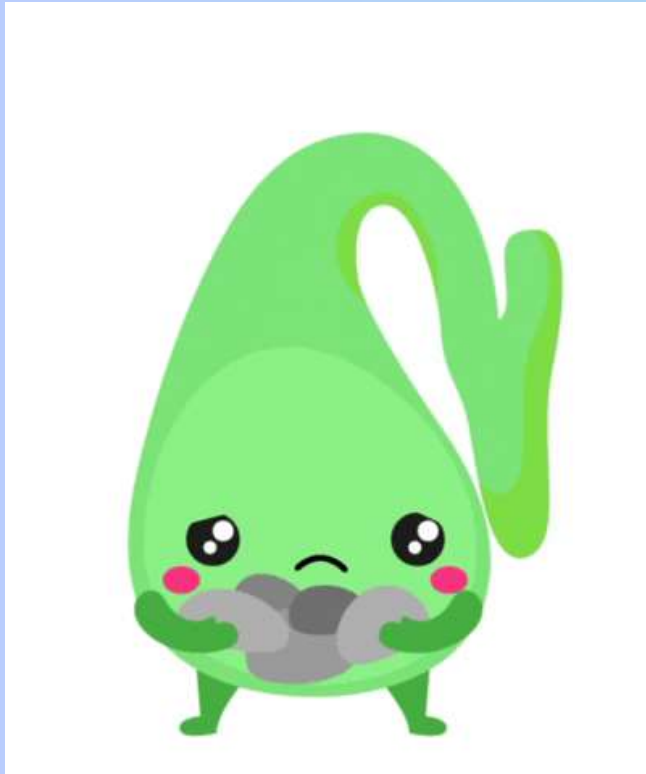




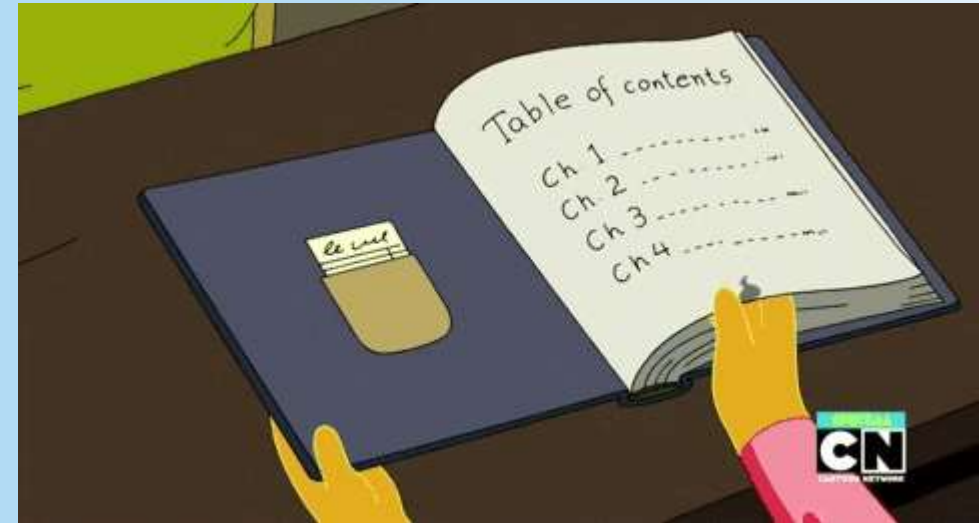
LIVER AND GALLBLADDER PATHOLOGY

BY VASVI SADHWANI

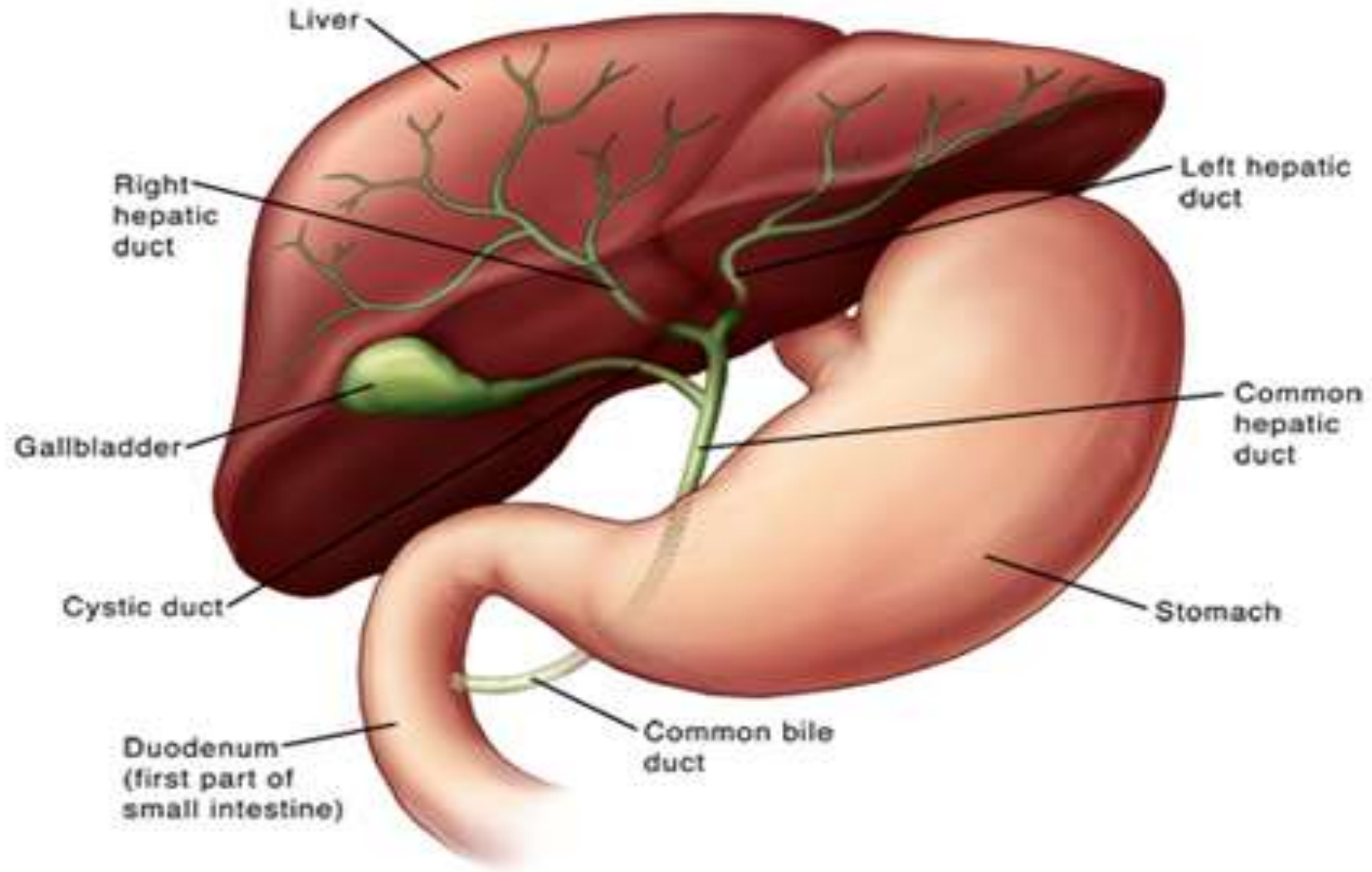


OVERVIEW

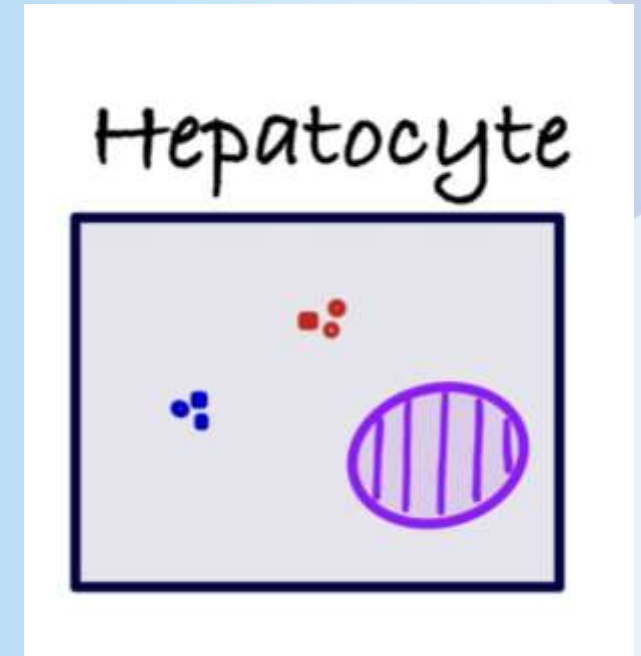
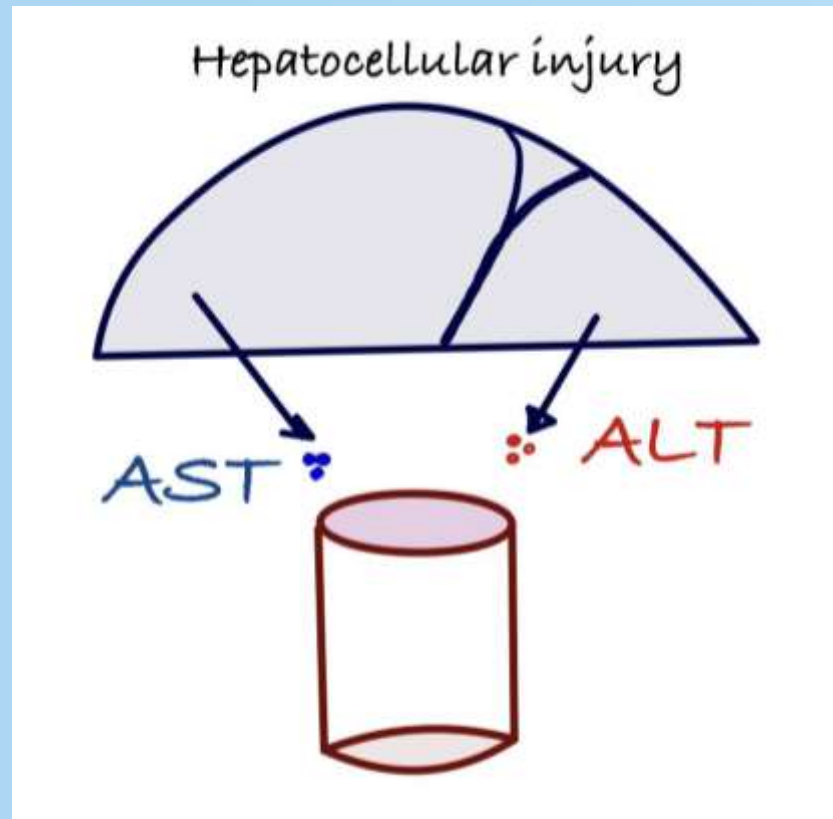
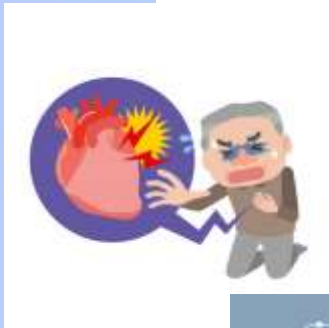
- Anatomy review
- Liver function Tests
 - AST, ALT
 - GGT, ALP, BILIRUBIN
 - ALBUMIN
 - PT
- Hyperbilirubinemia
- Gallbladder Disorders
 - Cholelithiasis
 - Cholecystitis
- Hepatitis
- Cirrhosis



Anatomy

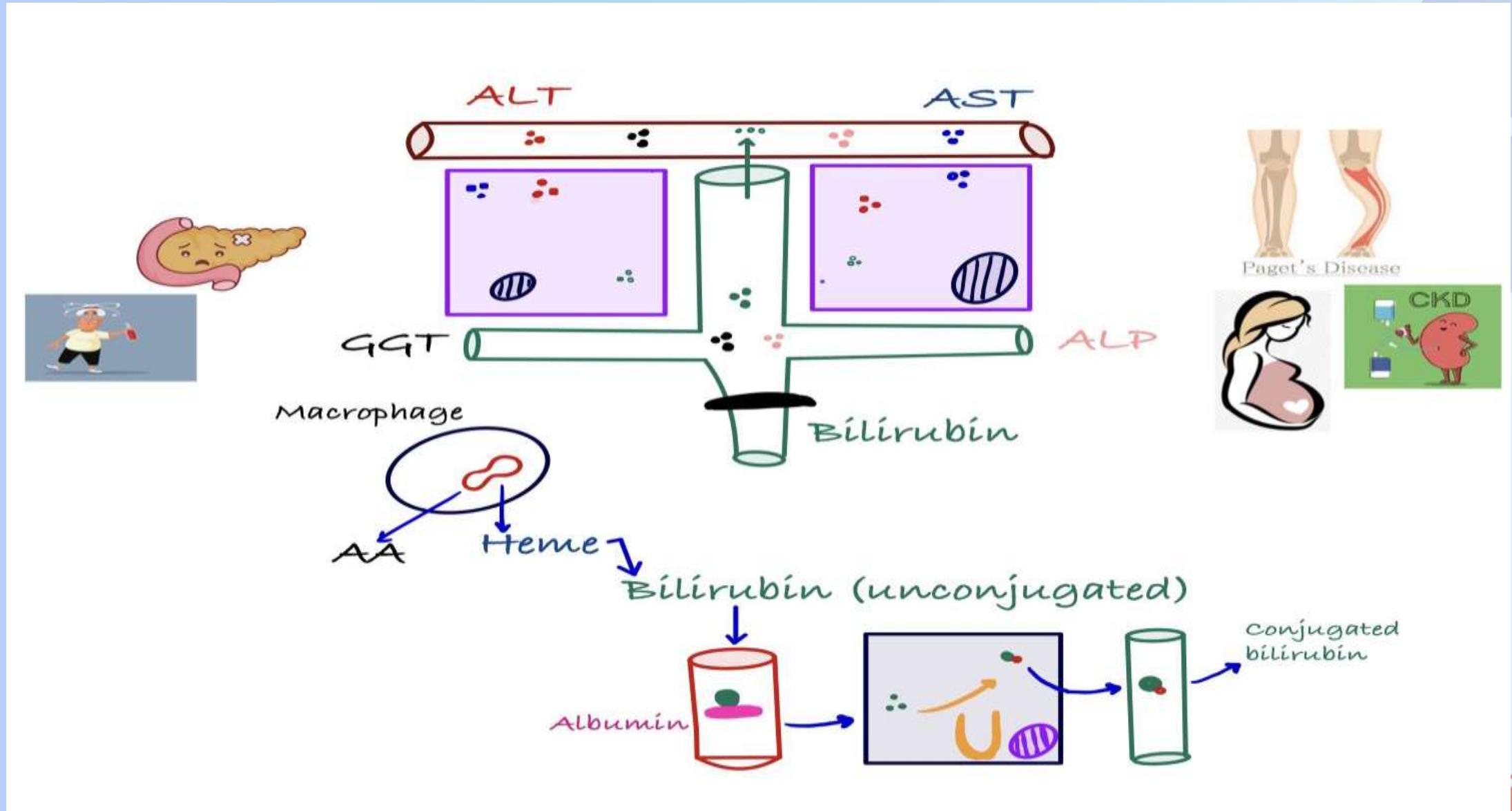


LIVER FUNCTION TESTS : ALT, AST

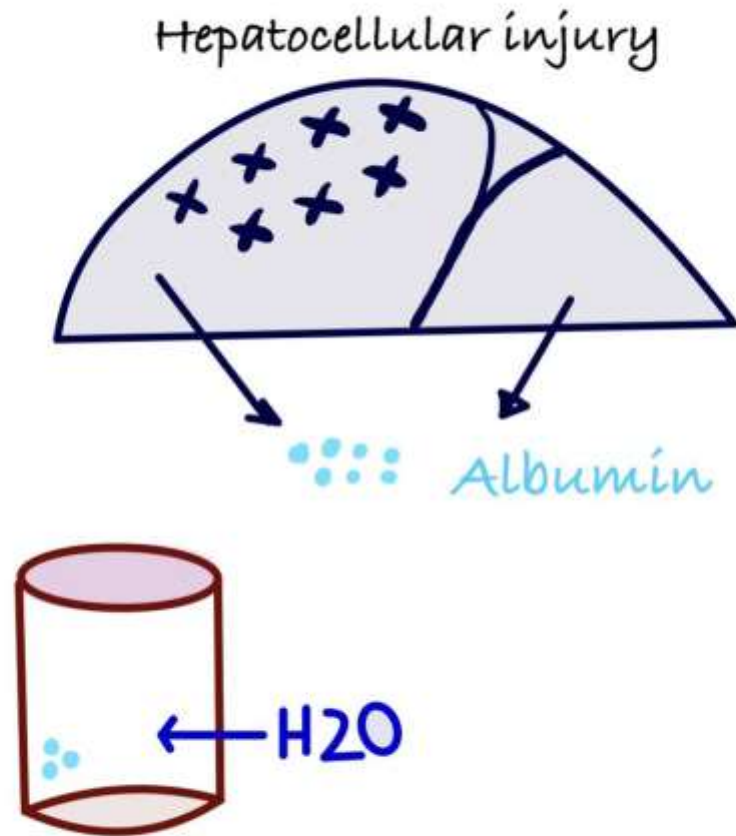


- Necrosis
- Inflammation

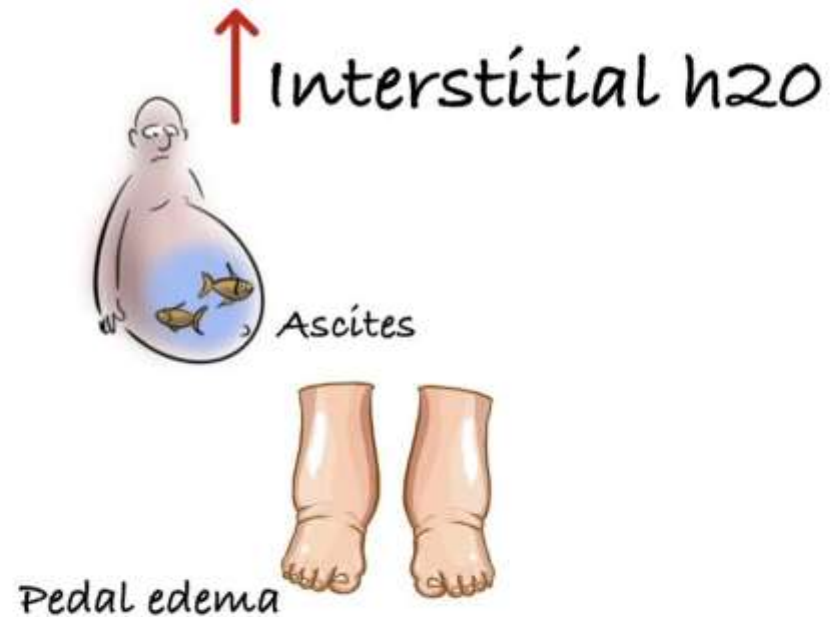
LIVER FUNCTION TESTS; GGT, ALP, BILIRUBIN



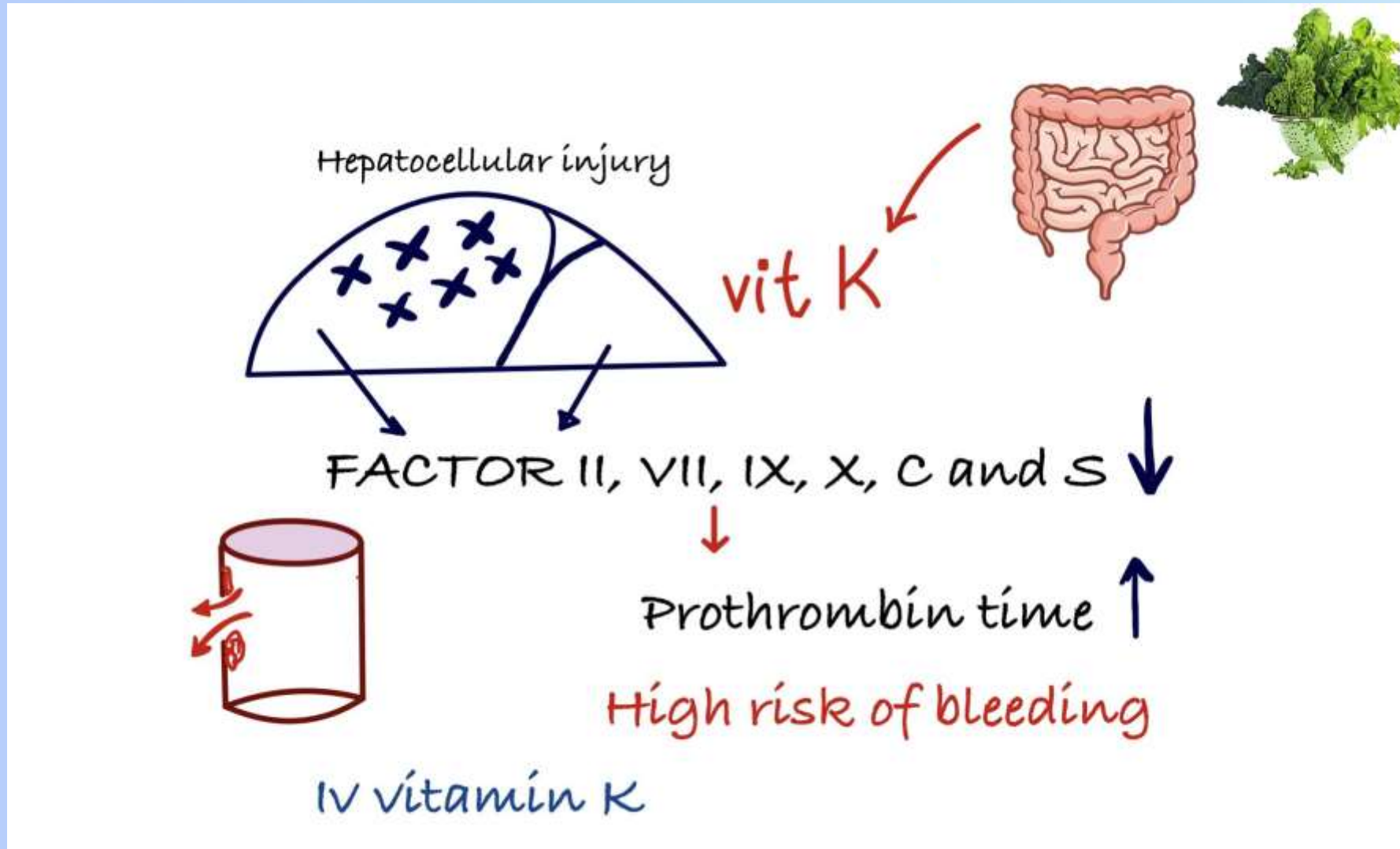
LIVER FUNCTION TESTS; ALBUMIN



- CIRRHOSIS
- LIVER FAILURE



LIVER FUNCTION TESTS; PT prothrombin time



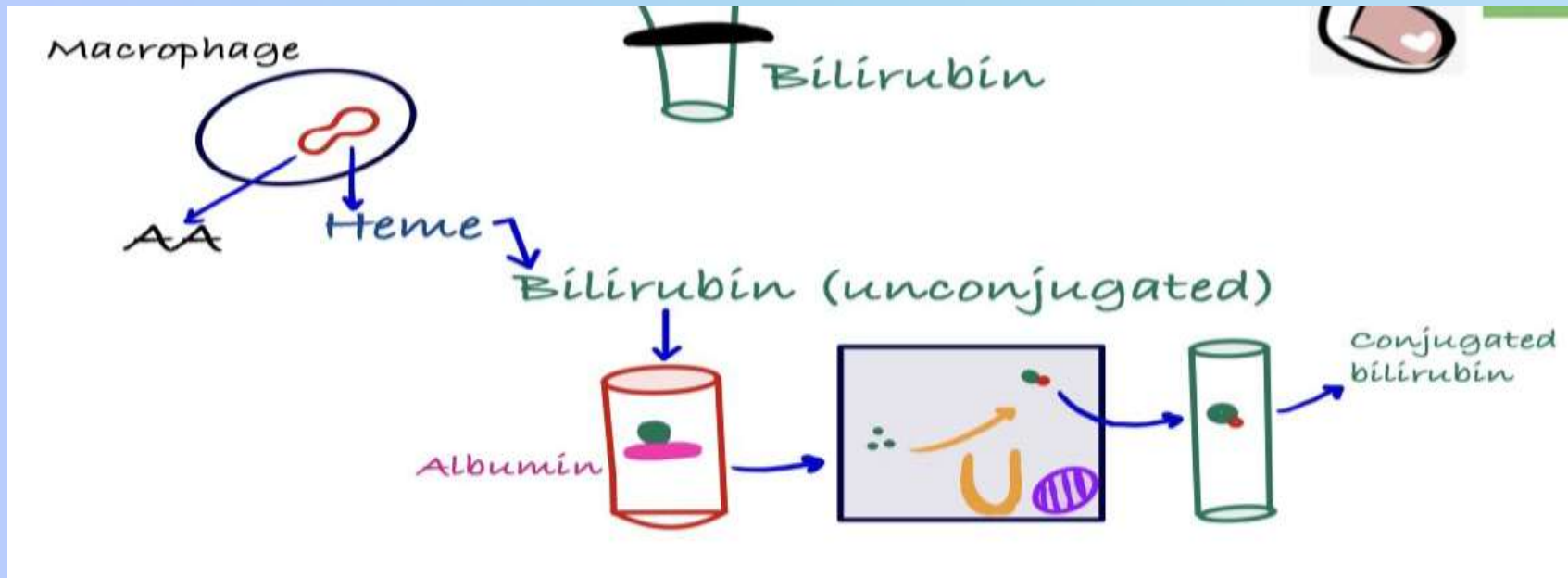


HYPERBILIRUBINEMIA (JAUNDICE)

- Yellow Discoloration of Sclera, Mucous membranes and skin due to deposition of bile pigment
- Concentration greater than 1.8mg/dL leads to jaundice



PRE HEPATIC HYPERBILIRUBINEMIA

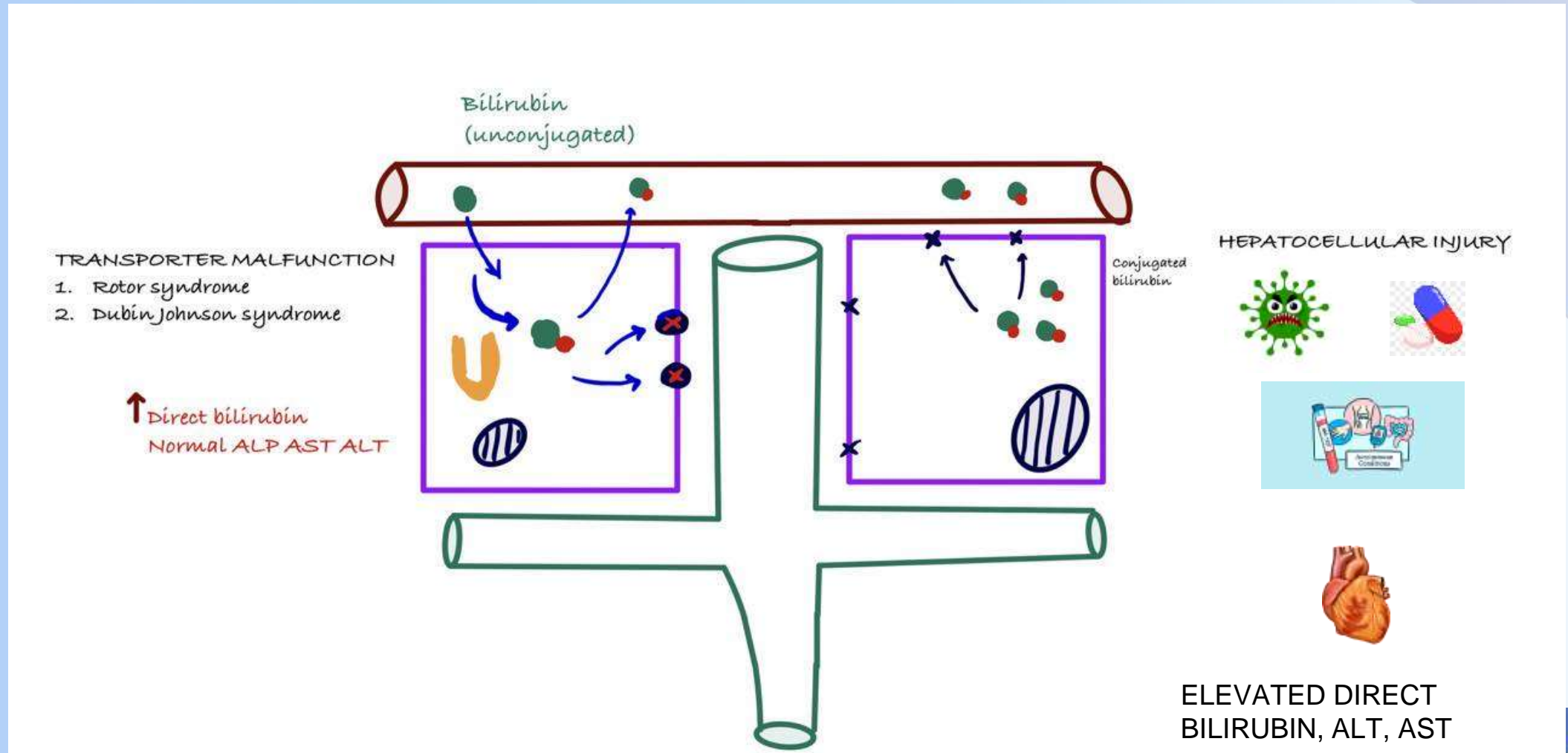


1. **HEMOLYSIS (+ reticulocytosis)**
2. **TRANSPORT PROBLEM**
 1. Rifampin (Latent TB)
 2. Probenecid (Gout)
3. **CONJUGATION PROBLEM**
 1. GILBERT SYNDROME
 2. CRIGGLER NAJAR SYNDROME (CHILDREN)

- Total bilirubin - Direct bilirubin = Indirect bilirubin

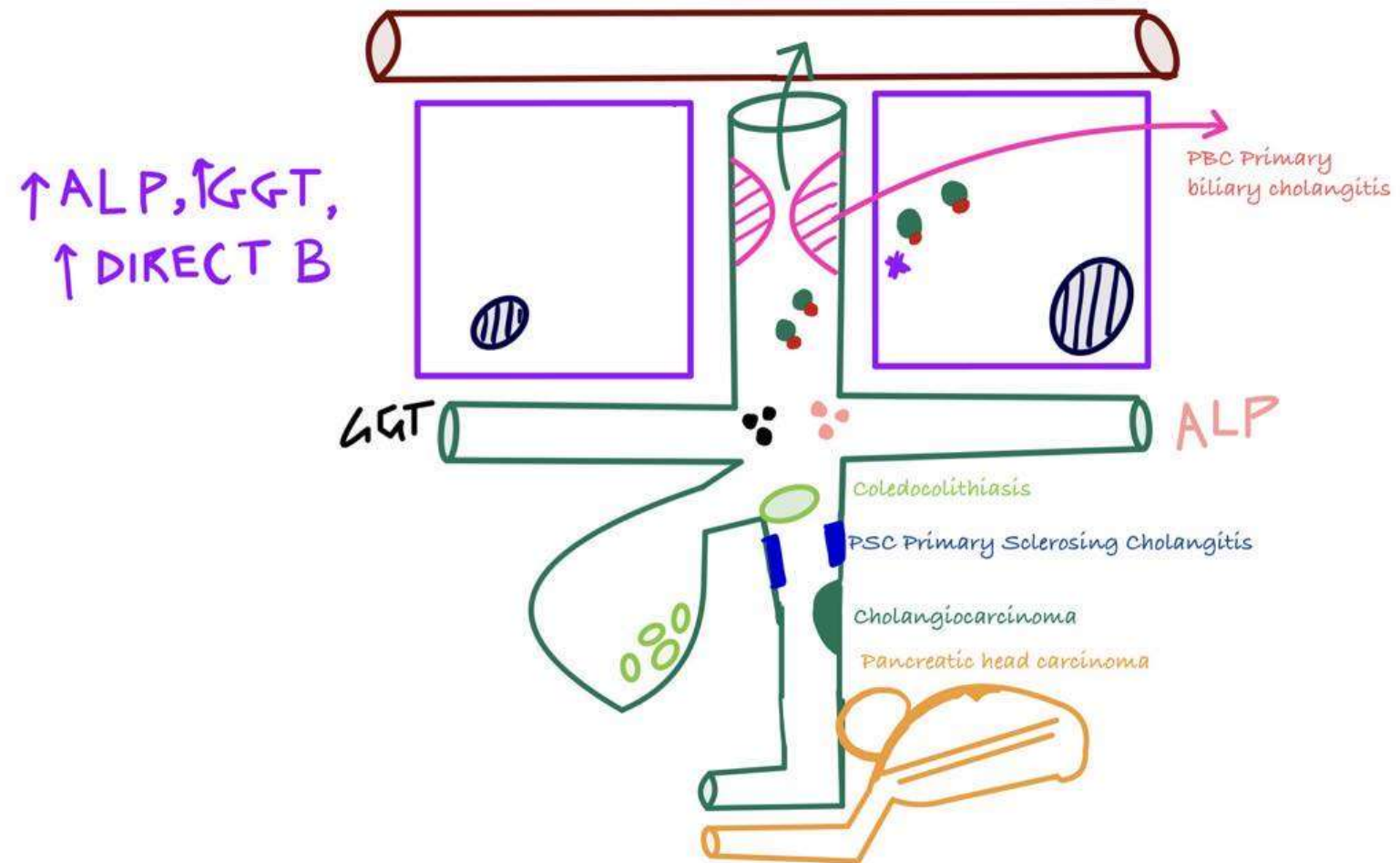
INTRA HEPATIC JAUNDICE

- ELEVATED TOTAL BILIRUBIN AND VERY ELEVATED DIRECT BILIRUBIN



POST HEPATIC JAUNDICE

- ELEVATED DIRECT BILIRUBIN
- ELEVATED TOTAL BILIRUBIN

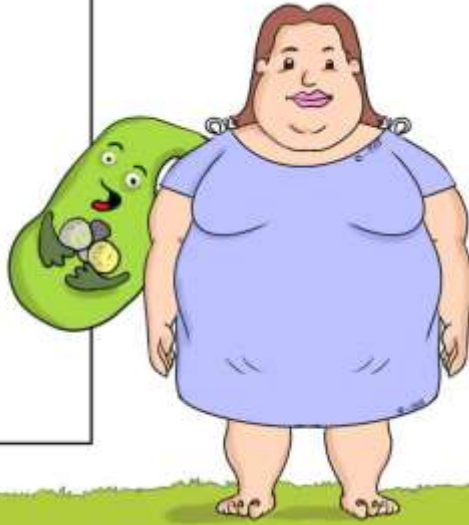


Risk factors for Gallstone

www.medinaz.com

“4 F”

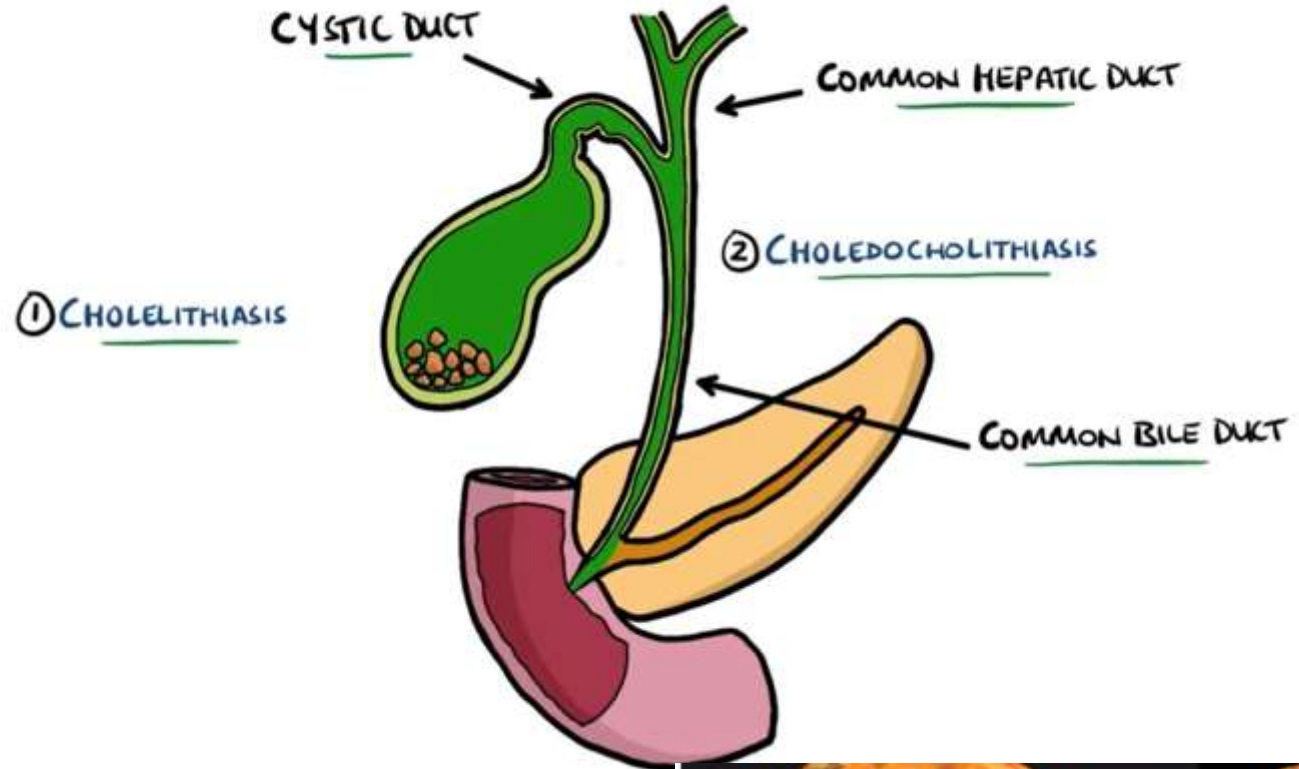
Fat
Forty
Female
Fertile



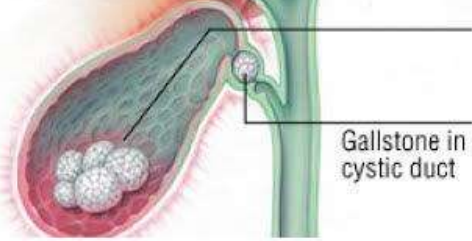
- High fat diet
- Losing weight very fast
- Sedentary lifestyle
- Fasting
- g cirrhosis, ileal disease or resection, sickle-cell anemia

CHOLELITHIASIS

FORMATION OF STONES IN THE GALBLADDER OR BILIARY TRACT



Gallstones in gallbladder may cause inflammation



CHOLECYSTITIS

PAIN - midepigastriac
↓
right upper quadrant

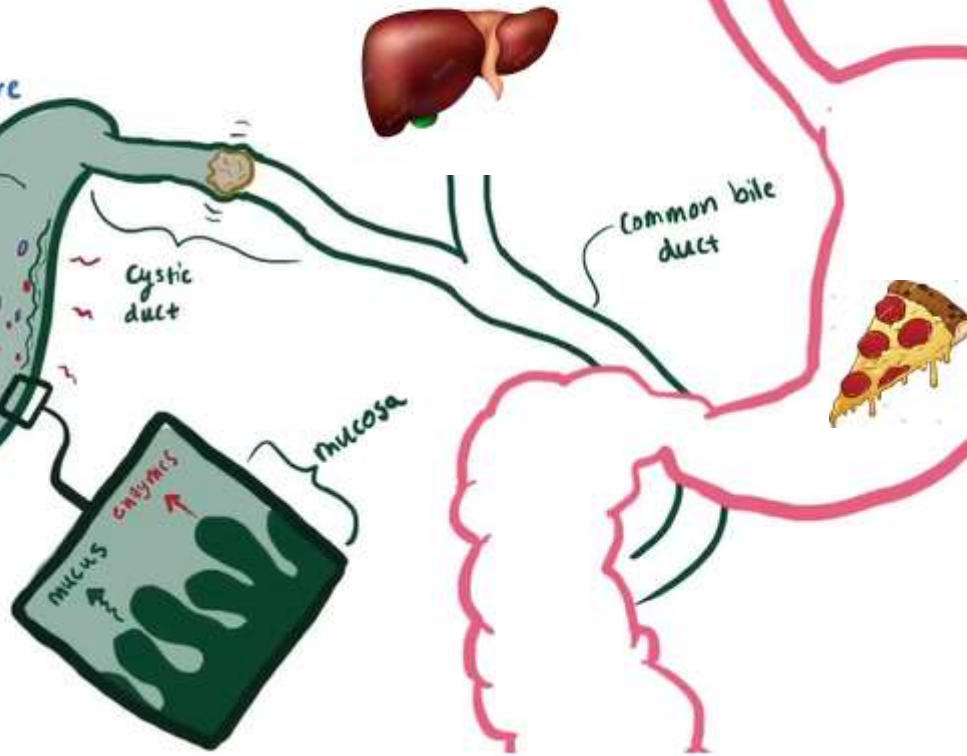
ACUTE CHOLECYSTITIS

gallbladder inflammation

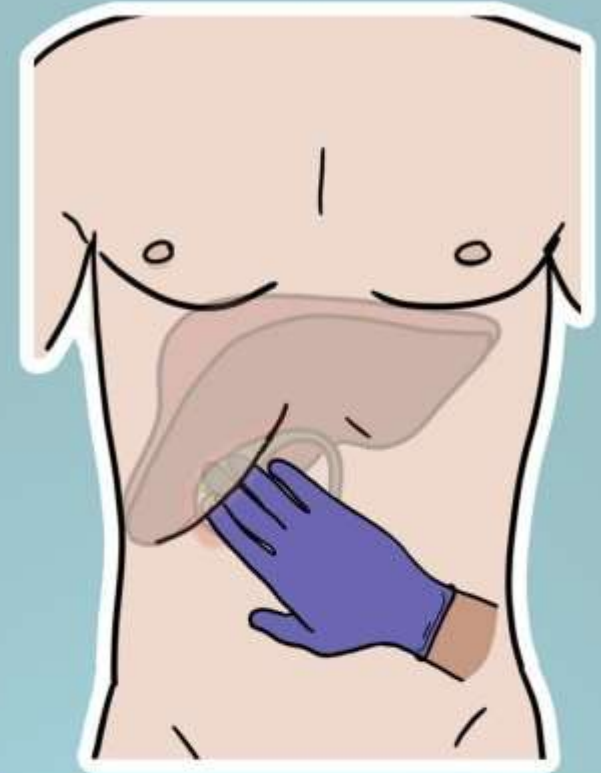
Inflammation & ↑ pressure

BACTERIAL GROWTH

- E. coli
- Enterococci
- Bacteroides fragilis
- Clostridium



Murphy's Sign



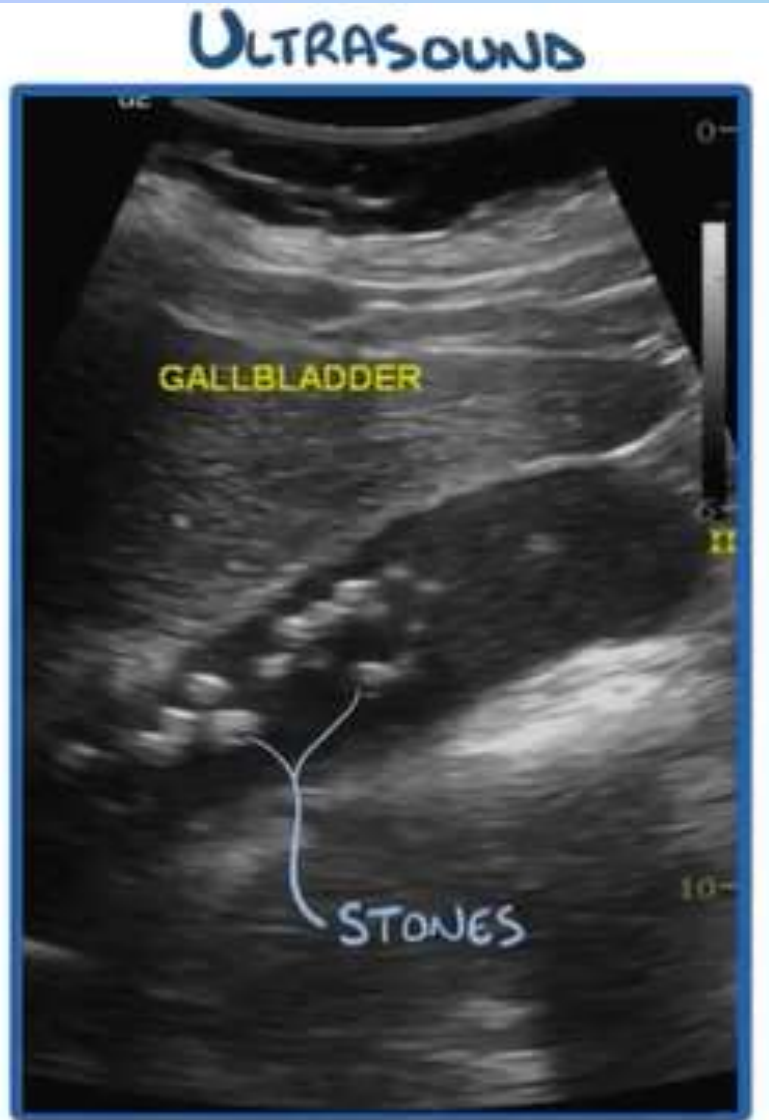
A positive **Murphy's Sign** indicates potential cholecystitis or inflammation of the gallbladder.

To test, **firmly palpate the RUQ subcostal region**, pushing under the ribs. Ask the patient to take a deep breath.

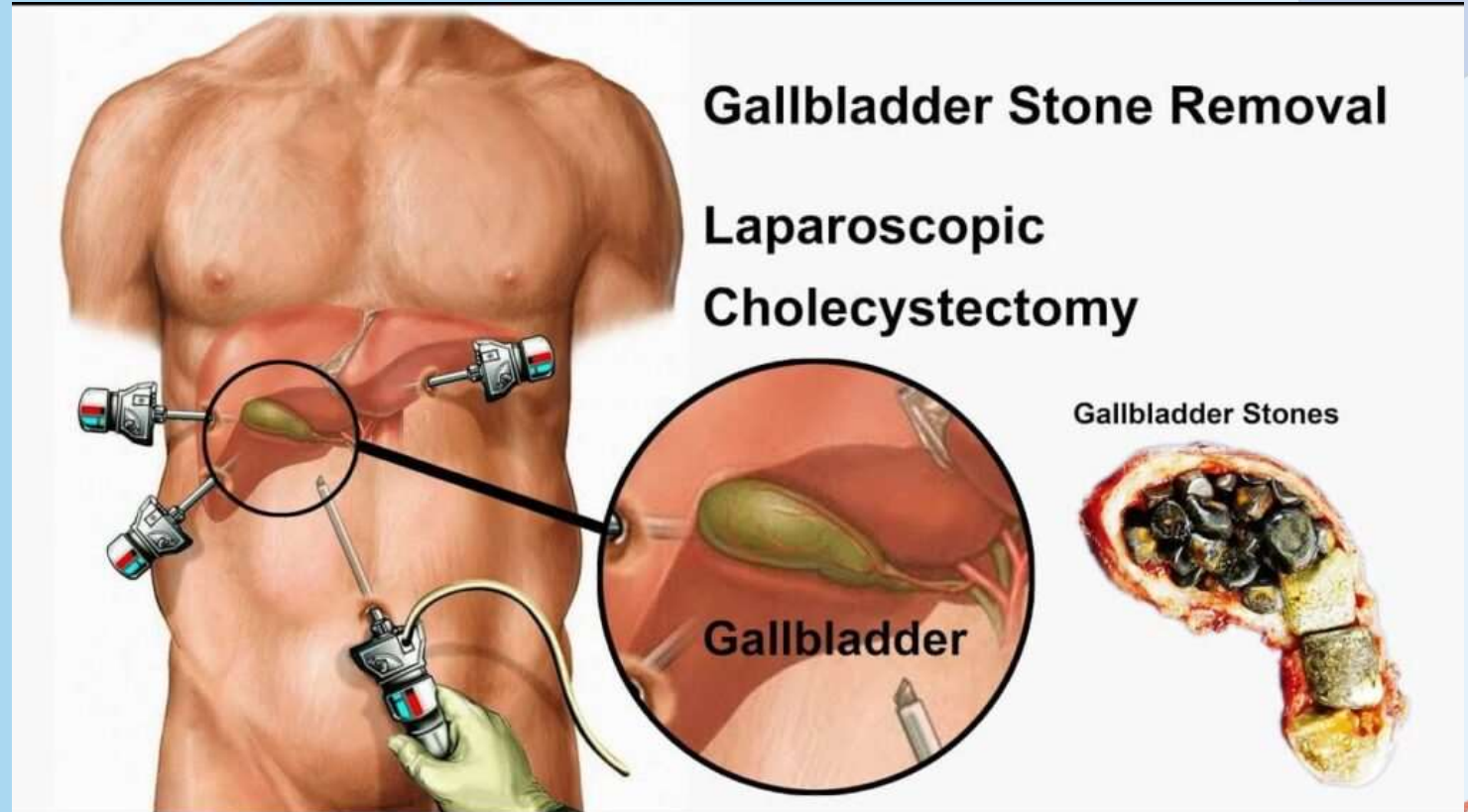
A positive sign is when significant pain is elicited by this maneuver, usually **stopping them mid-breath**.



DIAGNOSIS & TREATMENT



- INTRAVENOUS FLUIDS
- PAIN MANAGEMENT
- ANTIBIOTICS





After Eating

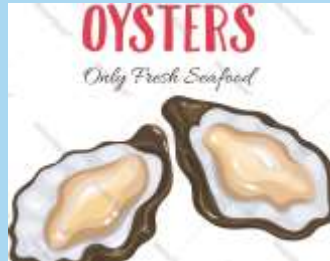
HEPATITIS



D + D = B

HEPATITIS A

- RNA VIRUS
- FECAL ORAL ROUTE
- NO chronic state
- No hepatocellular carcinoma risk



HEPATITIS C

- RNA Virus
- PARENTERAL TRANSMISSION
- CHRONIC HEPATITIS
- HEPATOCELLULAR CARCINOMA RISK



Blood Contamination

HEPATITIS B

- DNA VIRUS
- PARENTERAL, SEXUAL, VERTICAL
- Chronic state
- Surface Antigen after Infection (HB2AG)

HEPATITIS D : REQUIRES HEP B

HEPATITIS E

- FECAL ORAL ROUTE

OTHERS : (IMMUNOCOMPROMISED)

EBV, CMV, HSV

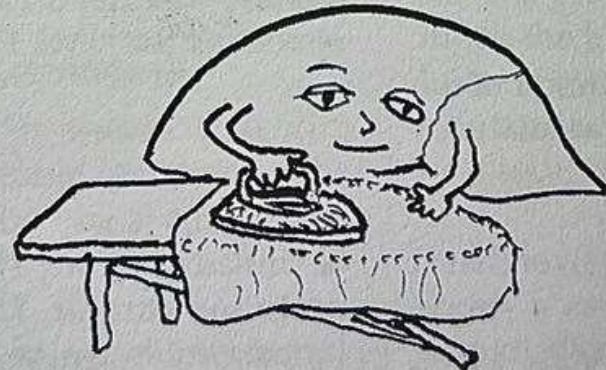
PORTAL HYPERTENSION

- TESTICULAR ATROPHY
- SPLENOMEGALY
- ASCITES
- TELANGIECTASIS

Liver overworked due to "policing" the body fluids

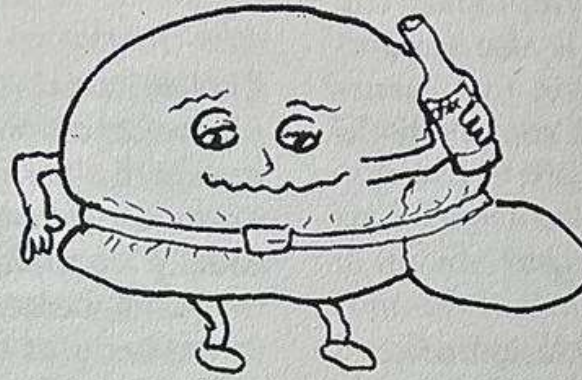


CIRRHOTIC LIVER

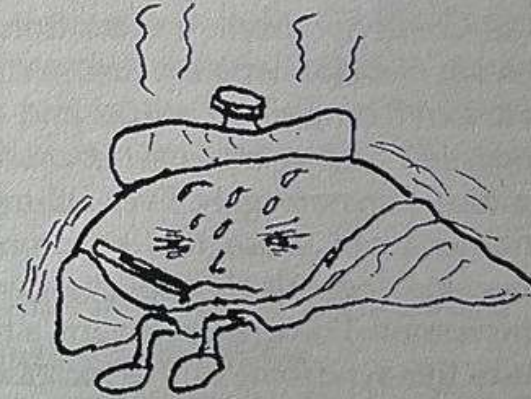


Repeated scarring

Alcohol consumption



Infection



SCARRING AND DEATH OF HEPATOCYTES

