

Module: Gastro-Intestinal Tract (GIT)

Semester: 1

Session: 7

Lecture: 2

Liver, Gallbladder and pancreas (L2)

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This Lecture was loaded in blackboard and you can find the material

Clinical chemistry and metabolic medicine. 7th Edition, Martin A. Crook [2006].

Gastrointestinal system – crash course. 3rd Edition, Mosby [2008]

For more detailed instructions, any question, or you have a case you need help in, please post to the group of session. *Images are under Creative Commons Distribution.*



Liver, Gallbladder and pancreas

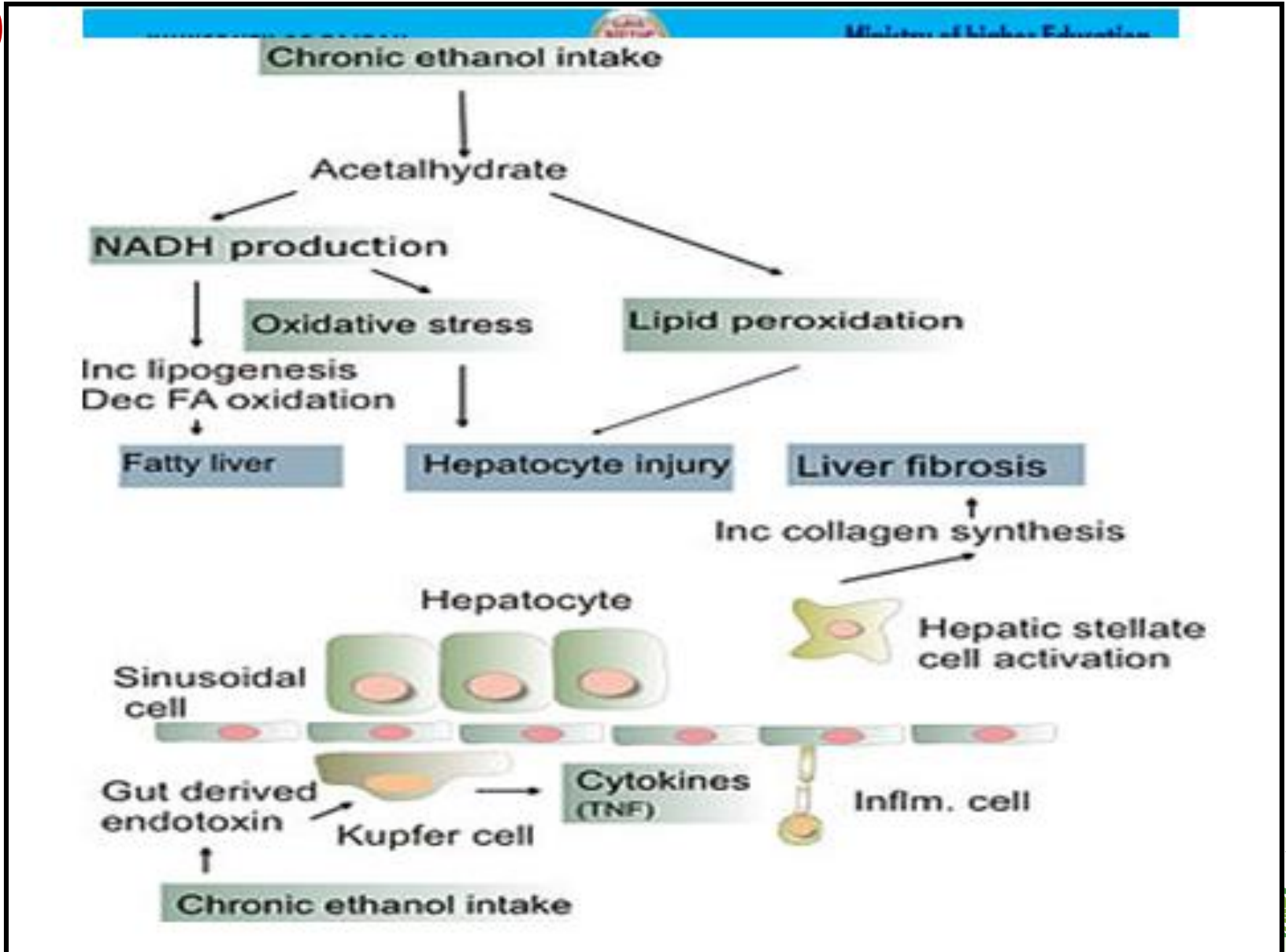
Learning objectives:

- 9 -** The effects of excessive alcohol consumption on the liver, the key features of alcoholic liver disease.
- 10-** The consequences of liver cirrhosis .
- 11-** Outline how liver diseases may lead to portal hypertension .
- 12-** The causes and consequences of gallstones.
- 13-** The causes and consequences of acute pancreatitis.
- 14-** The presentation of carcinoma of the pancreas.



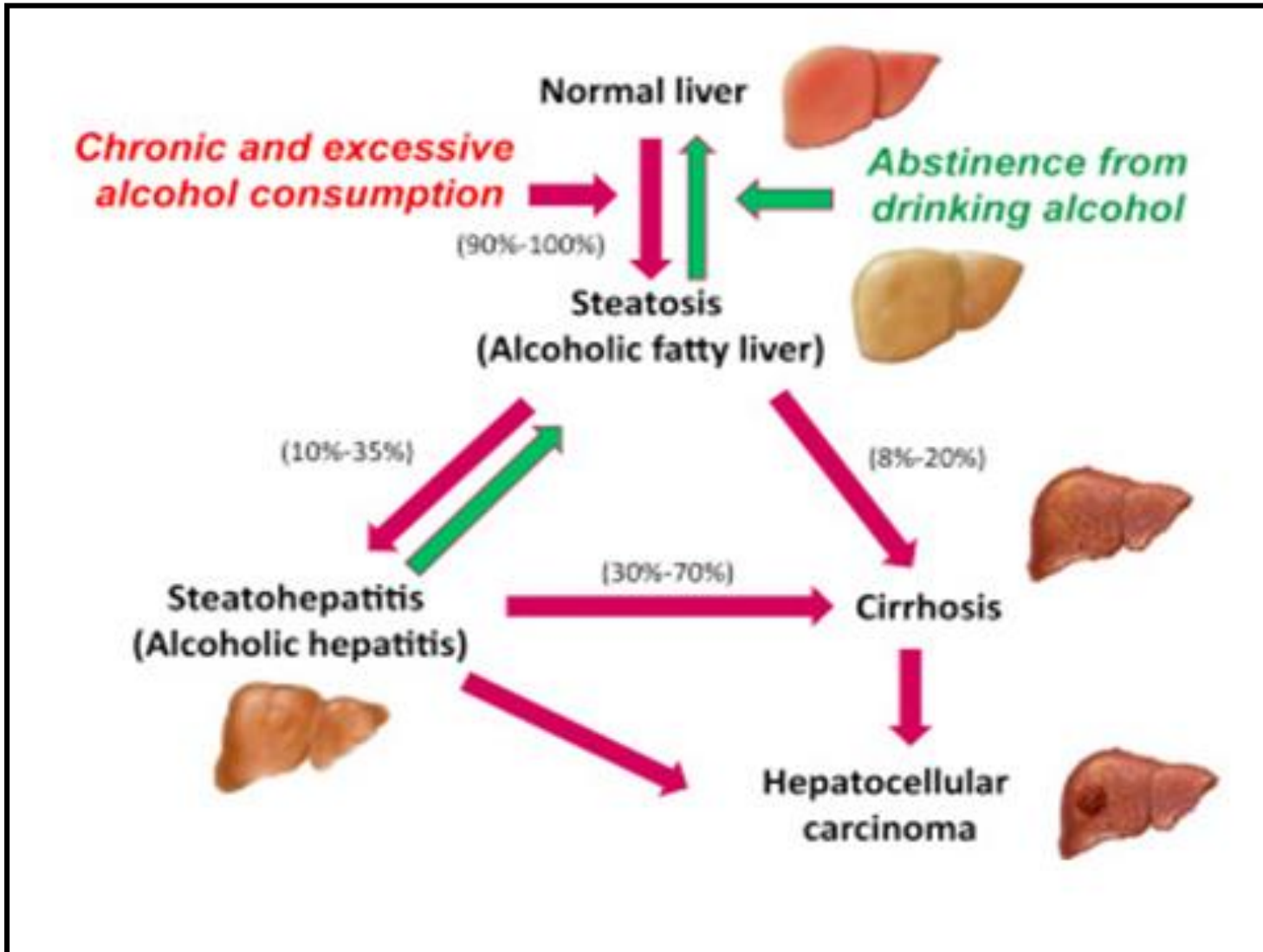


LO 9





(LO 9)



Clinical features of alcoholic liver disease

(LO 9)

- * Jaundice
- * Fatigue
- * Low grade fever
- * Loss of appetite
- * Nausea and vomiting
- * Tenderness in the right upper abdomen
- * Weight loss

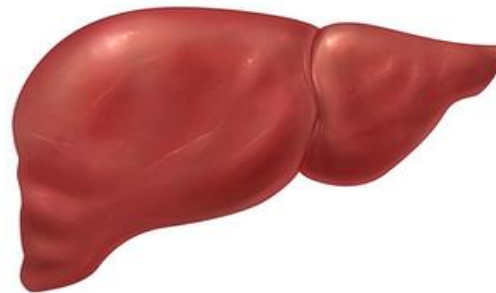
Liver damage may be reversed at early stage and the person stop drinking



Liver cirrhosis (LO 10)

- **Cirrhosis** is a late stage of scarring (fibrosis) of the liver caused by many forms of liver diseases and conditions, such as hepatitis and chronic alcoholism.

Normal Liver



Liver with Cirrhosis



The causes of Cirrhosis

Haemachromatosis
"Bronze Diabetes"
(Iron accumulates in the tissues, including the liver)



alpha-1 Antitrypsin Deficiency
(deposition of excessive abnormal A1AT protein in liver cells occurs).



α-1

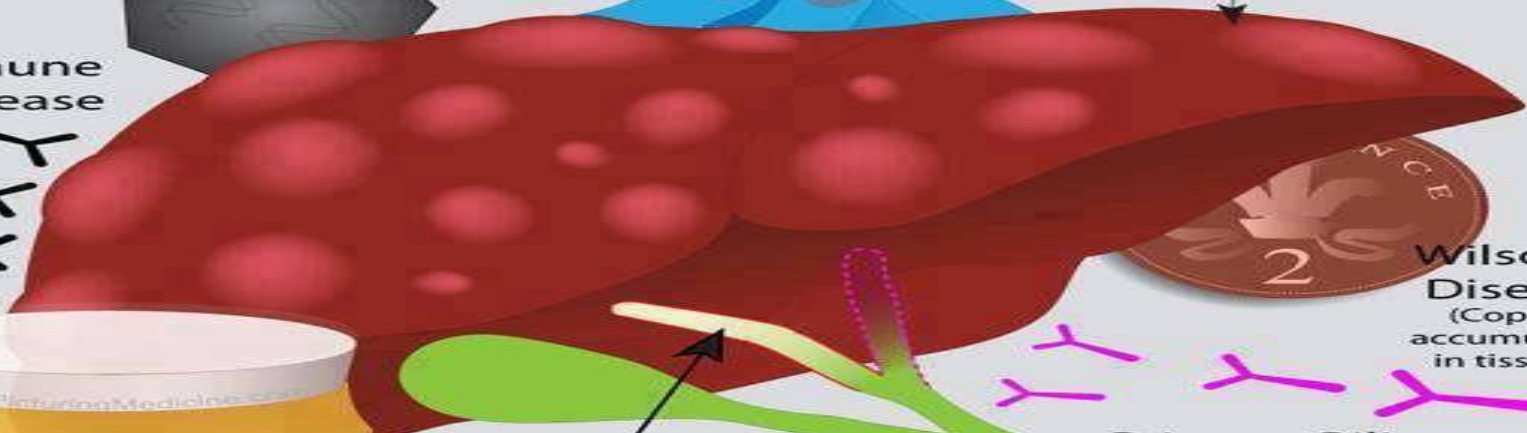
Chronic Viral Hepatitis



Budd Chiari Syndrome
(Hepatic Vein Thrombosis)



Autoimmune Liver Disease



Wilson's Disease
(Copper accumulates in tissues).

Primary Biliary Cirrhosis
(Autoimmune attack of the bile ducts)



Primary Sclerosing Cholangitis
(Progressive inflammation and scarring of the bile ducts of the liver).



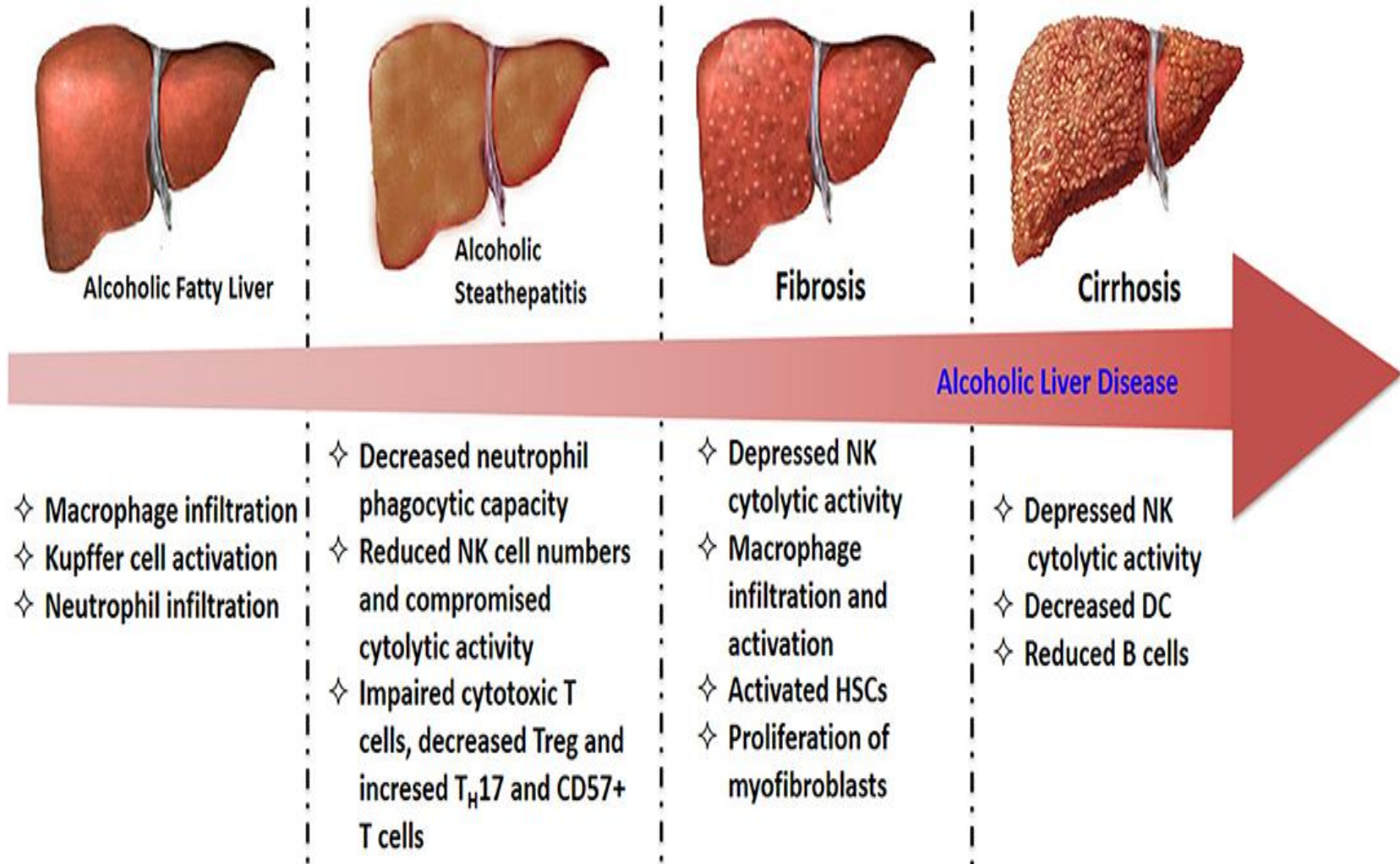
Alcohol



Drugs
- Amiodarone
- Methyldopa
- Methotrexate



Stages of liver cirrhosis (LO10)





Signs and symptoms(LO 10)

- Fatigue
- Easily bleeding or bruising
- Loss of appetite
- Nausea
- Swelling in the feet, legs, ankle(edema)
- Weight loss
- Itchy skin
- Jaundice
- Ascites???

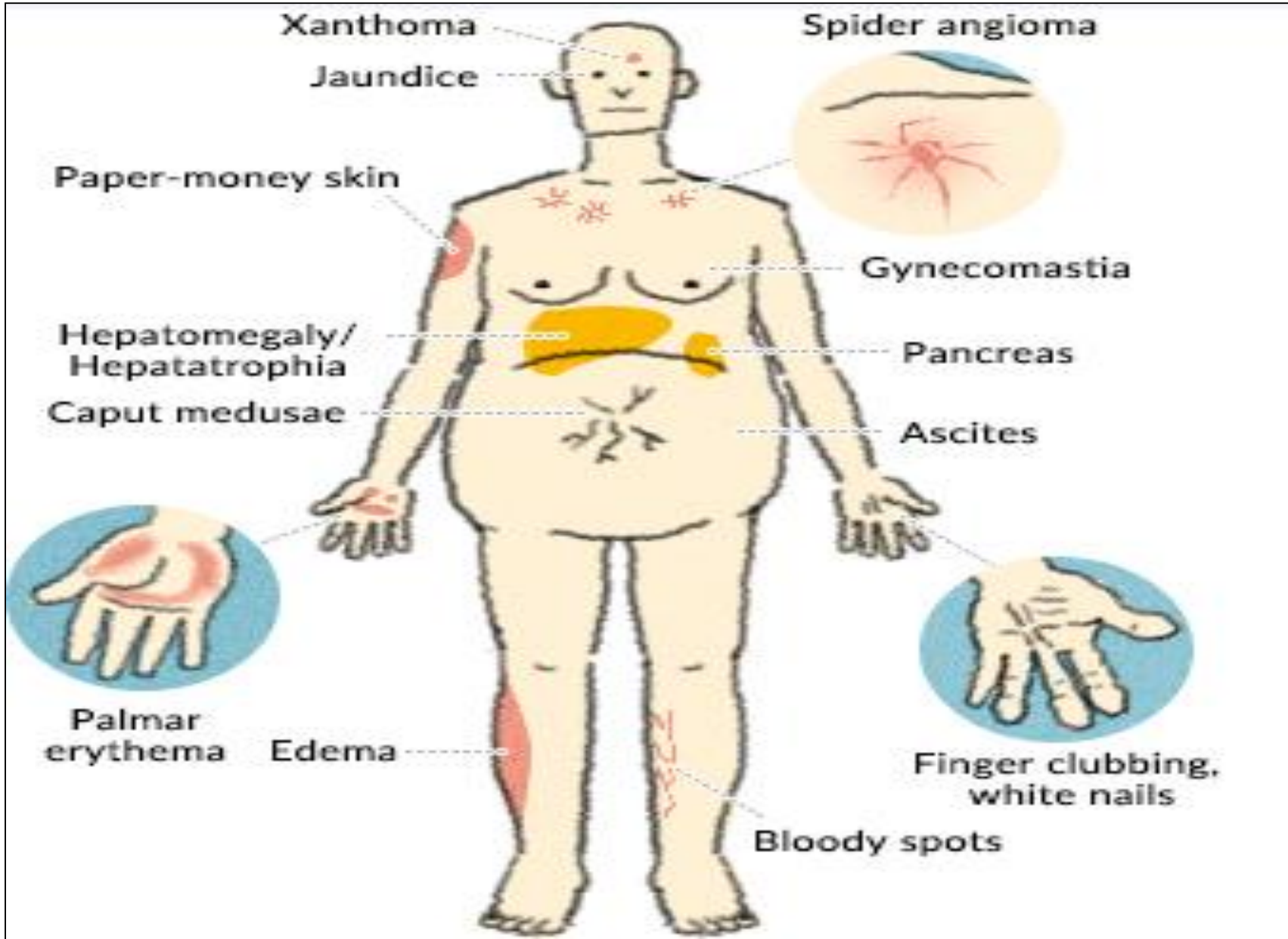


Signs and symptoms (LO 10)

- Spider like blood vessels on the skin
- Palmer erythema
- Gynecomastia , testicular atrophy in men while in women ???
- Confusion, drowsiness
(hepatic encephalopathy)
- Coma and death

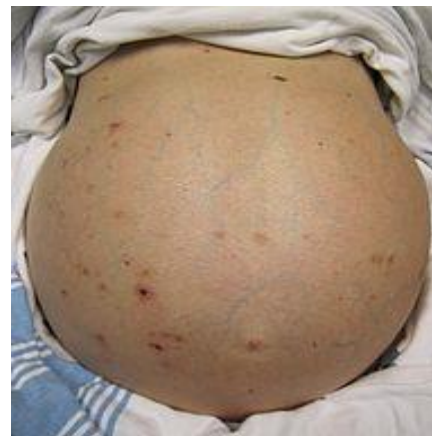


(LO 10)



Complications of liver cirrhosis(LO10)

- 1- Ascites**
- 2- Bacterial peritonitis**
- 3- Portal hypertension**
- 4- Variceal bleeding**
- 5- Hepatic encephalopathy**



Portal hypertension (LO 11)

A high blood pressure in the portal vein

**Normal BP in the portal vein 7mmHg, in portal HT
this increases 2-3 fold**

**Liver disease is the most common cause, BUT it is not the
only**



Causes (LO11)

- ❖ **Prehepatic** - a blockage of the portal vein before the liver.
- ❖ **Hepatic** - disruptions of the liver architecture.
- ❖ **Posthepatic** – a blockage in the venous system after the liver.



Causes of portal hypertension (LO11)

Prehepatic

portal vein thrombosis
arteriovenous fistula
increased splenic blood flow
secondary to splenomegaly

Hepatic

cirrhosis
schistosomiasis
sarcoidosis
Tuberculosis
alcoholic hepatitis

Posthepatic

Budd-Chiari syndrome (hepatic vein obstruction)
Veno-occlusive disease
sever right sided heart failure
constrictive pericarditis



Gall stones (LO12)

- Are solid particles that form from bile , cholesterol and bilirubin.

Risk factors :

- 1- Sex , Female more than male.
- 2- Age ,It increases with age in both sexes.
- 3- Obesity.
- 4- Diabetes mellitus.
- 5- Haemolytic disease.





Types of gall stone (LO12)

1-Cholesterol stone.

2-Pigmented stone which composed of bile pigment and calcium.

3-Mixed stone(contain all the three component).



Types of Gallstones (LO12)



A etiology (LO12)

- **Cholesterol stone :**

- 1- Increased cholesterol in the bile, e.g. obesity or diet
- 2- Decreased amount of bile acids, e.g. malabsorption (cystic fibrosis).

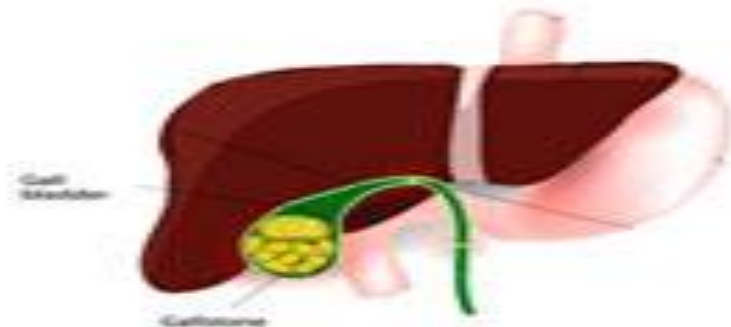
- **Pigment stones :**

- 1- Haemolytic anemia.
- 2- Ileal resection (recycling of bile is impaired).
- 3- Chronic infection of the biliary tract.



Complication of gall stones (LO12)

- 1- Acute cholecystitis
- 2- Pancreatitis
- 3- Gall stone ileus and ileul obstruction
- 4- Biliary enteric fistula
- 5- Carcinoma of the gall bladder



Gall bladder Stones



I GET SMASHED

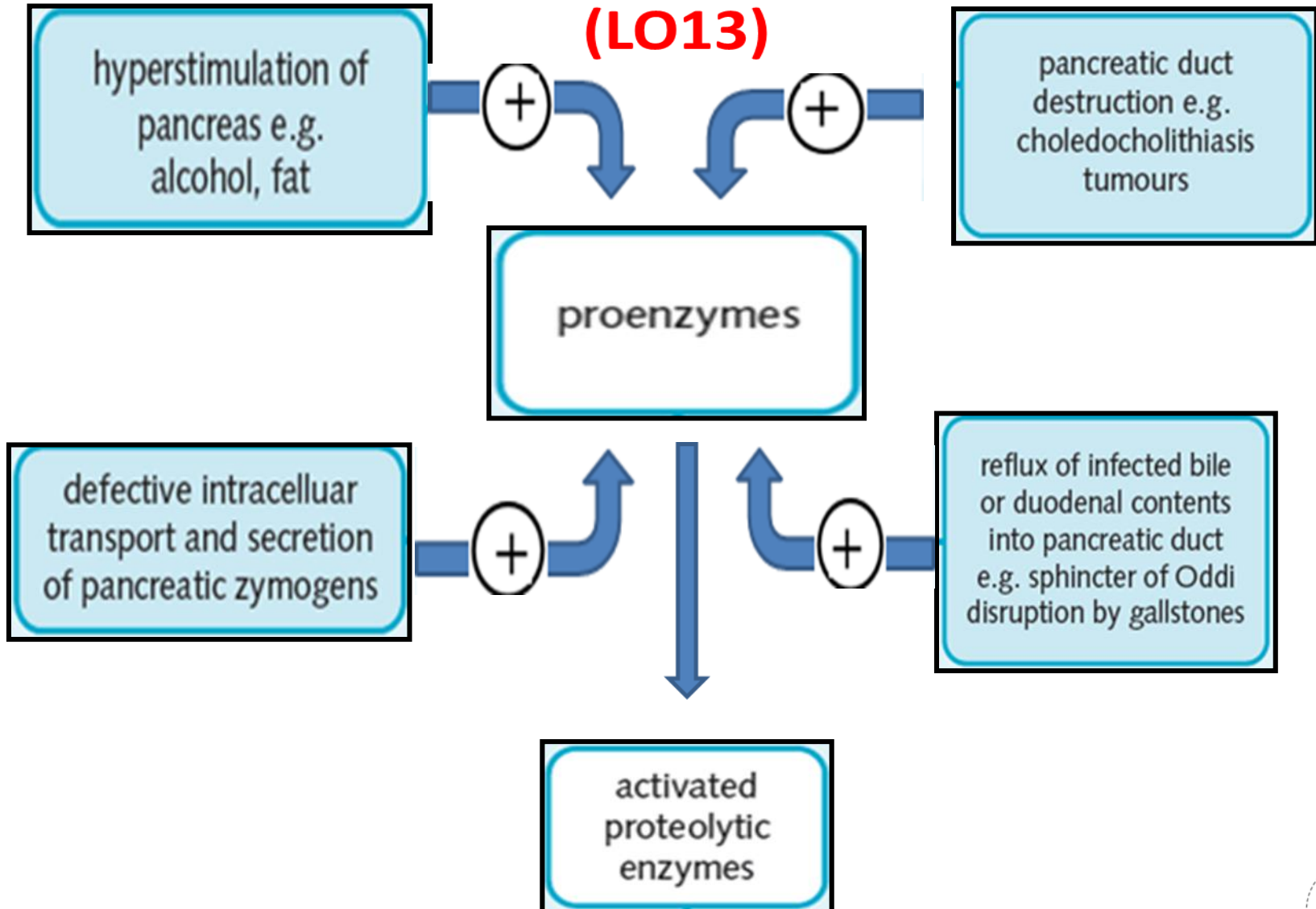
Acute pancreatitis (LO13)

- I** Idiopathic
- G** Gallstones
- E** Ethanol
- T** Trauma
- S** Steroids
- M** Mumps
- A** Autoimmune
- S** Scorpion bites
- H** Hyperlipidemia / Hypothermia
- E** ERCP
- D** Drugs (especially azathioprine and diuretics).





(LO13)



Signs and symptoms : (LO13)

- Upper abdominal pain.
- Abdominal pain that radiates to the back.
- feels worse after eating. Relieved by leaning forward
- Fever.
- Tachycardia
- Nausea.
- Vomiting.
- Tenderness when touching the abdomen



Increased serum lipase

Increased serum amylase



Complications of acute pancreatitis (LO13)

1- Local complication :

a-Abscess (pseudo cyst)

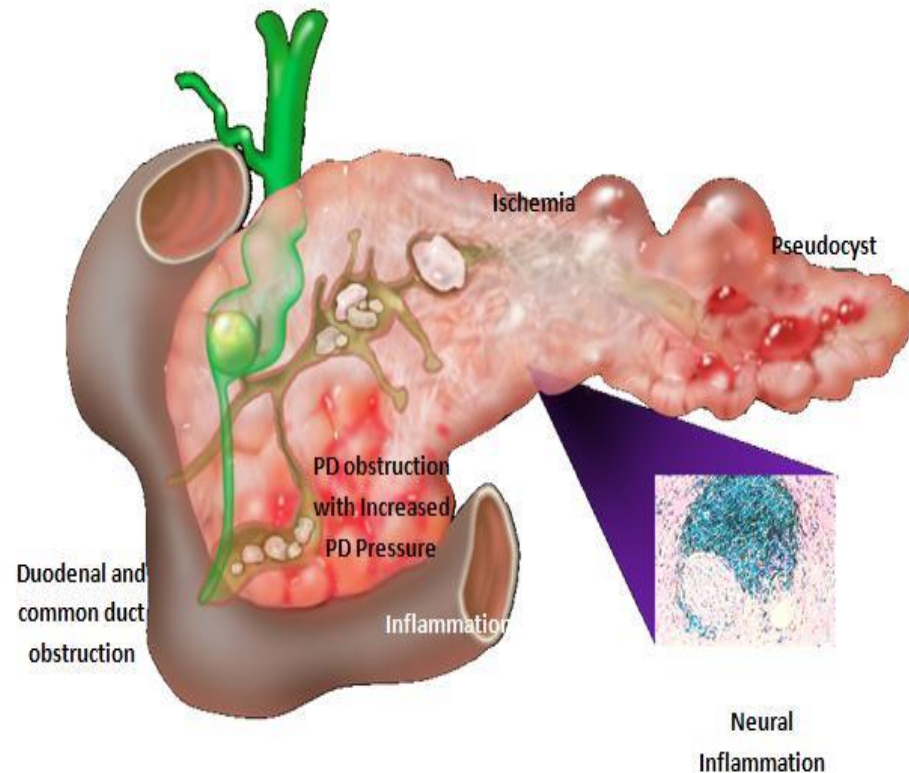
b-Diabetes mellitus

c-Relapse

2- Systemic complication

a-Multiple organ failure

b- DIC (disseminated intravascular coagulation).





Chronic pancreatitis (LO13)

- Is a chronic inflammatory disease leading to destruction of the exocrine pancreas and fibrosis of the tissue.
- **The causes :**
 - chronic alcohol abuse (85%)
 - Idiopathic
 - Trauma
 - Hypercalcaemia
 - Cystic fibrosis
 - Hereditary





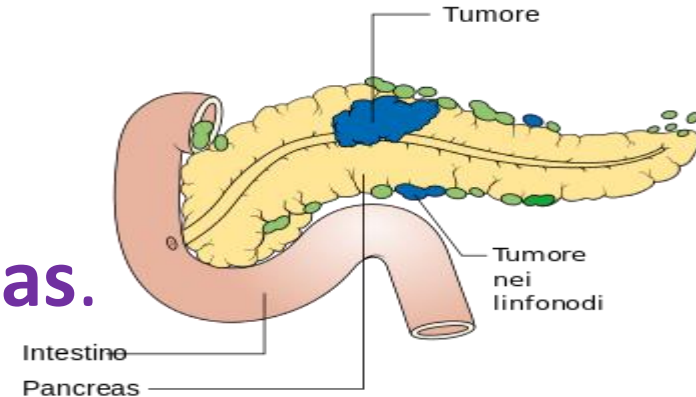
Clinical features :(LO13)

- Pain
- Malabsorption
- Weight loss
- Diabetes



Carcinoma of the pancreas (LO14)

- ❖ Most common occur among diabetic female.
 - ❖ Age more than 60 years.
 - ❖ Associated with smoking.
-
- 60 % in the head of pancreas.
 - 15-20 % in the body.
 - 5-10 % in the tail.
 - 20 % involve the pancreas diffusely.





Clinical features (LO14)

- 1- Painless progressive jaundice.
- 2- Pain.
- 3- Intermittent jaundice.
- 4- Diabetes mellitus.
- 5- General features of malignancy ,e.g. weight loss.





Thank
You

