

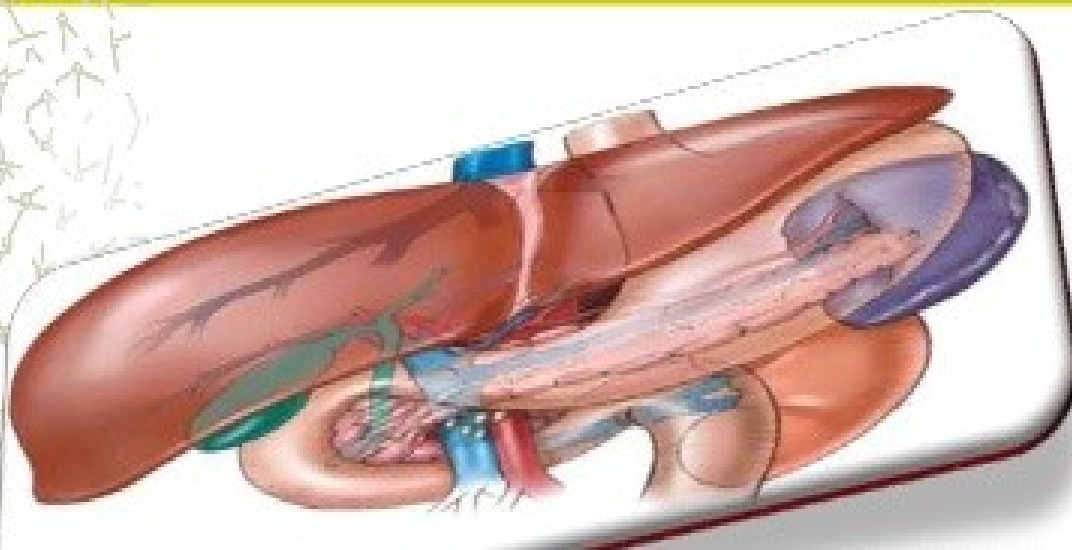
بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

السلام عليكم ورحمة الله وبركاته

Advance Medical Nursing

Hepatitis

VIRAL HEPATITIS



OBJECTIVE :

- By the end of this lecture the student will be able to indentify the hepatitis.

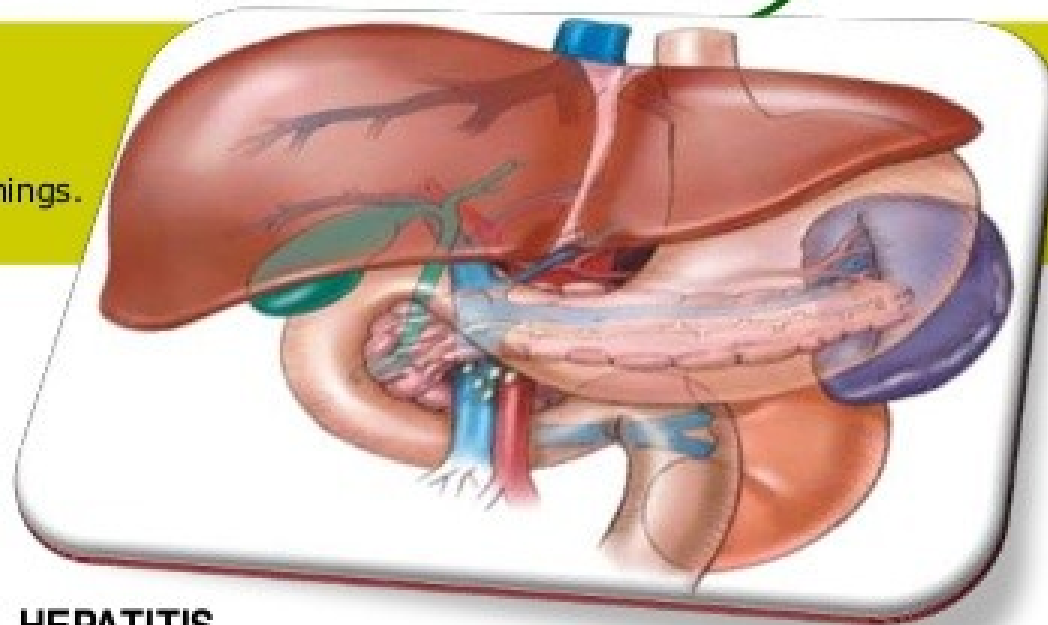
CONTENTS :

- Pathophysiology
- Etiology
- S/S
- Diagnostic test
- Treatment
- Complication
- Prevention
- Nursing diagnosis

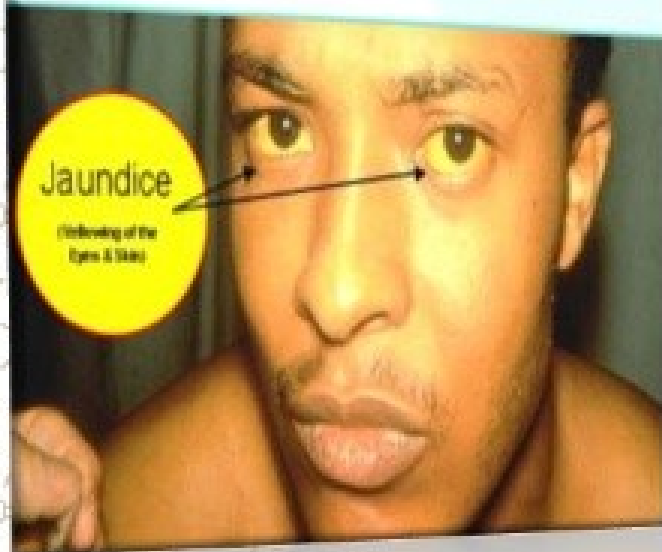
LIVER

The liver is an organ that does many important things.

- removes harmful chemicals from your blood
- fights infection
- helps digest food
- stores nutrients and vitamins
- Stores energy



Hep A Patient with Jaundice



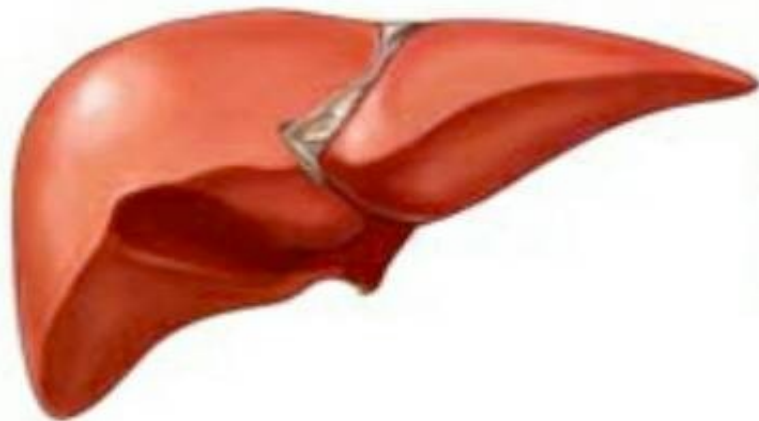
HEPATITIS

Hepatitis is a class of diseases that impact the liver. Hepatitis can cause inflammations of the liver and can cause its function to diminish. When this happens liver scarring can occur, which is known as cirrhosis, and in severe cases, cancer can develop. Hepatitis can be attributed to certain types of medication, toxins, alcohol, hereditary conditions, viruses, and autoimmune disorders. Hepatitis can be classified as viral or non-viral. These five types are categorized, A, B, C, D, and E. The most common of these types are A, B, and C (HAV, HBV, HCV.)

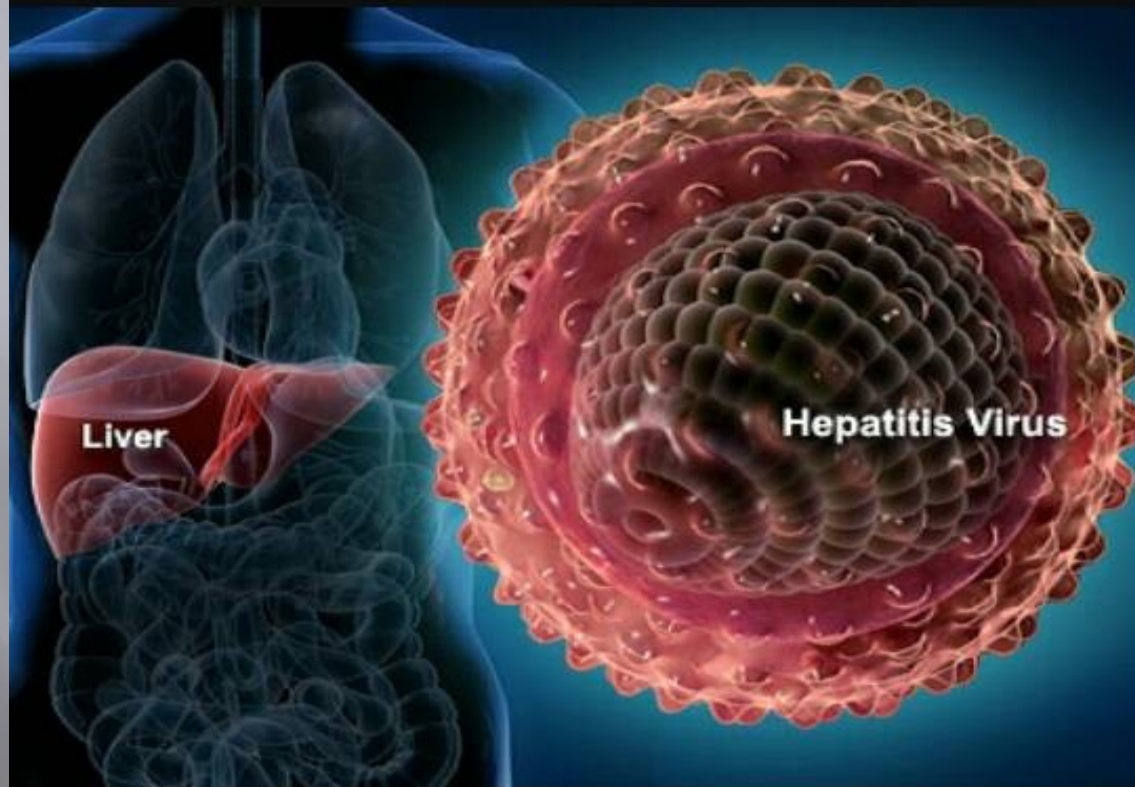
HEPATITIS :

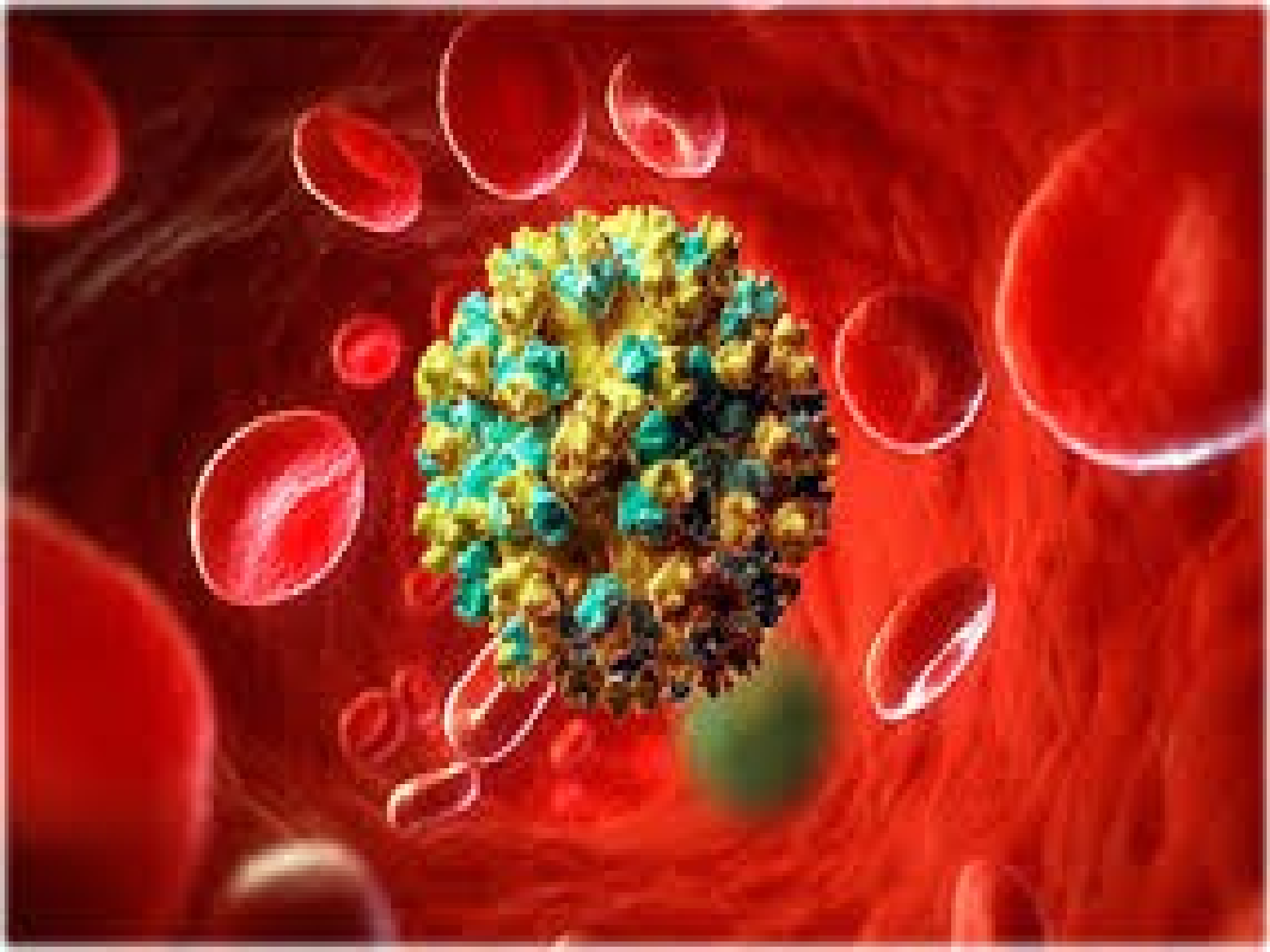
- Is an inflammation of the cells of the liver, resulting from infection by viral agents or exposure to drugs toxic to the liver or occasionally from bacterial infection .

Healthy Liver



**Inflammation of the
Liver Tissue**





CLASSIFICATION:

- ✶ Viral hepatitis may be divided into 5 types according to etiology, that is hepatitis **A, B, C, D** and **E**
- ✶ Although the agents can be distinguished by its antigenic properties, the 5 kinds of viruses may produce clinical similar illness.



ETIOLOGY :

- Hepatitis is usually caused by one of six viruses :
- Hepatitis A virus (HAV) ,sometimes called infectious hepatitis.
- Hepatitis B virus (HBV) ,sometimes called serum hepatitis.
- Hepatitis C virus (HCV).
- Hepatitis D virus (HDV).
- Hepatitis E virus (HEV).
- Hepatitis G virus (HGV).

Pathophysiology :

- The infecting organism causes inflammation of the liver, with resulting damage to liver cells and loss of liver function .
- If the damage involves the bile canaliculi, obstructive jaundice will occur.
- If complication don't occur ,cell regenerate and normal liver function eventually resumes.

Pathophysiology :

- The viral agents vary by mode of infection, incubation period, symptoms, diagnostic tests , and preventive vaccines.

Hepatitis A Virus :

- **Mode of transmission:**
- Oral –fecal contamination of water.
- **Incubation period:**
- 3 -7 weeks.
- **Symptoms:**
- Early (prodromal):
- Fatigue
- Anorexia
- Malaise
- Nausea
- vomiting

Signs & Symptoms

Some persons, particularly young children, are asymptomatic. When symptoms are present, they usually occur abruptly and can include the following:

- ✶ Fever
- ✶ Fatigue
- ✶ Loss of appetite
- ✶ Nausea



Signs & Symptoms cont:

- ✶ Vomiting
- ✶ Abdominal pain
- ✶ Dark urine
- ✶ Clay-colored bowel movements
- ✶ Joint pain
- ✶ Jaundice .



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Hepatitis A Virus

- Icteric:
- Jaundice
- Pale stools
- Dark urine
- RUQ pain
- **Diagnostic tests:**
- Elevated serum liver enzymes (ALT) , (AST).
- Elevated serum bilirubin.
- HAV antigen.

Hepatitis A Virus

- **Preventive vaccine:**
- Immune globulin

- **Groups at risk:**
- Individuals in military or day care

Hepatitis B Virus:

- **Mode of transmission:**
- blood or body fluids such as saliva, semen, and breast milk.
- Equipment contaminated by blood.
- **Incubation period:**
- 2 -5 months
- **Symptoms:**
- Early (prodromal) :
- 1-2 months of fatigue
- Malaise
- Anorexia

Hepatitis B Virus:

- Low grade fever
- Nausea
- Headache
- Abdominal pain
- Muscle aches
- #may have no early symptoms
- Icteric:
- Jaundice
- raches

Hepatitis B Virus:

- **Diagnostic tests:**
- Elevated serum liver enzymes (ALT,AST).
- Elevated serum biliurbin.
- HBV antigen
- **Preventive vaccine:**
- Immune globulin or HBIG
- **Group at risk:**
- IV drugs abusers.
- Homosexuals.
- Health care workers.
- Transplant and hemodialysis pt

Hepatitis C Virus:

- **Mode of transmission :**
- Blood transfusion
- IV drugs use
- Un protected sex
- **Incubation period:**
- 1 week to months
- **Symptoms:**
- Same as HBV , usually less severe
- **Diagnostic test:**
- Elevated serum liver enzymes(ALT,AST).
- Elevated serum bilirubin
- HCV antigen

Hepatitis B Virus:

- **Preventive vaccine:**
- None
- **Group at risk:**
- Same as HBV.

Hepatitis D Virus:

- **Mode of transmission :**
- Bloody or body fluids as with HBV. Strongly linked as coinfection with HBV.
- **Incubation period:**
- Same as HBV
- **Symptoms:**
- Similar to HAV and HBV but more severe.
- **Diagnostic test :**
- Elevated serum liver enzymes (ALT,AST).
- Elevated serum bilirubin.
- HDV antigen.

Hepatitis D Virus:

- alpha interferon can be used to treat hepatitis D, but it only shows improvement in about 25 to 30 percent of people.
- **Preventive vaccine:**
- HBIG
- **GROUP AT RISK:**
- Same as HBV.

Hepatitis E Virus:

- **Mode of transmission:**
- Usually contaminated water.
- **Incubation period:**
- 2-9 weeks
- **Symptoms:**
- Similar to HAV.
- **Diagnostic test:**
- Elevated serum liver enzymes (ALT,AST).
- Elevated serum bilirubin.

Hepatitis E Virus:

- **Preventive vaccine:**
- None.
- **Group at risk:**
- Travelers to endemic areas.

General S/S:

There are generally there stages:

1- prodromal, or preicteric (prejaundice) stage:

Last about 1 week, pt complain of malaise, headache, anorexia, low grade fever, RUQ pain, nausea, vomiting, diarrhea or constipation.

General S/S:

- **2- the icteric stage:**
- Peaks at 2 weeks and lasts 2-6 weeks, the pt continues to have fatigue, anorexia, nausea, vomiting, and malaise , also pt likely to have yellowing of the skin ,sclera of the eyes and other mucous membranes, dark urine, clay colored stools. The liver usually enlarged and tender on examination.

General S/S:

- **3- the posticteric stage:**
- Last from 2-6 weeks with complete recovery in 6 months if relapse does not occur. The pt usually feels well during this time ,but full recovery as measured by return to normal of all liver function tests may take as long as 1 years.

Laboratory Tests For Hepatitis

test	Normal range	significance
ALT	5-35 IU/ml	High concentration
AST	8-20 IU/ml	High concentration
ESR	Women 1-20mm/hr Men 1-13mm/hr	Increase with inflammation
PT	8.8-11.6 seconds	Liver can no longer make PT
Serological test:		
Anti HAV	Negative titer	Indicate exposure and probable infection with virus
Anti HBV	Negative titer	//
Anti HCV	Negative titer	//

- ALT : alanine aminotransferase
- AST : aspartate aminotransferase
- ESR : erythrocyte sedimentation rate
- PT : prothrombin time

Treatment:

- There are no specific drugs or medical therapies for hepatitis.
- Interferon therapy and antiviral medication may be used for hepatitis B or C , but they may not be effective.
- Provide proper rest.
- Adequate nutrition for healing.
- Restricted from any alcohol or drugs that toxic the liver
- Place pt in limited activity because experience of fatigue and malaise.

Complication:

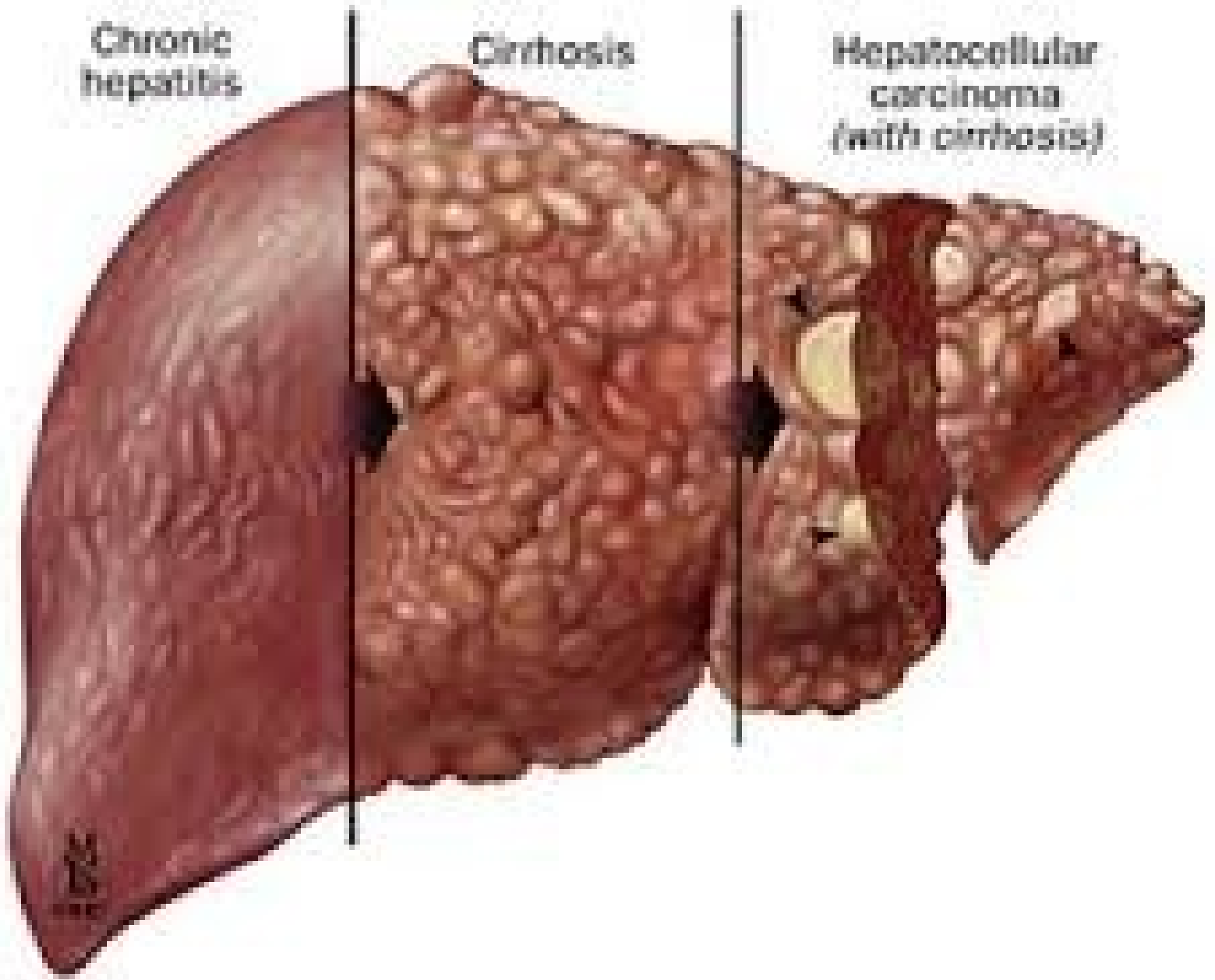
- Acute liver failure
 - Chronic liver failure
 - Cancer of the liver
 - Liver cirrhosis
- bleeding disorders
kidney failure
memory loss
hepatocellular carcinoma
Death



Chronic hepatitis

Cirrhosis

Hepatocellular carcinoma (with cirrhosis)



Prevention

- Careful attention to cleanliness.
- Uses of vaccines.
- Health care workers must use standard precautions at all times.
- Health education programs.
- supervision of public facilities.
- Screening of blood donors.
- Careful screening of food handlers.
 - not sharing drug needle, sharing razors
 - And touching spilled blood.
 - .avoid sexual intercourse

Nursing Diagnosis:

- **1- pain R/L inflammation and enlargement of the liver.**
- EOC : relive or reduce level of pain.
- Interventions :
- Monitor level of pain
- Assess characters of pain.
- Give analgesics as order.
- Encourage non pharmacological pain relive such as relaxation.

Nursing Diagnosis:

- **2- imbalance nutrition less than body requirement R/L nausea or vomiting.**
- EOC : pt weight will be stable.
- Intervention:
- monitor weight and nutritional intake.
- Provide high calorie ,protein, carbohydrate ,and low fat diet.
- provide small frequent meals.
- place pt in up right or sitting position for meals to decrease abdominal discomfort.
- Teach pt to avoid alcohol or vitamins supplements unless prescribed by the doctor.

Nursing Diagnosis:

- **3- risk for impaired skin integrity R/L itching secondary to bilirubin pigment deposits in skin.**
- EOC : pt skin will remain intact
- Intervention:
- Encourage hygiene and hand washing
- Encourage pt not to scratch, but press firmly on itching area.
- Encourage pt to keep finger nails short.
- Administer antihistamine as order.
- Increase fluid intake

Nursing Diagnosis:

- ❑ **4- Activity intolerance related to fatigue and weakness as manifested by verbal report of fatigue or weakness ,altered response to activity(as measured by BP,pulse and respiratory rate)**
- ❑ **EOC : Increased tolerance for activity**
 - Intervention: Provide rest period
 - Increase patient 's activity gradually as allowed and tolerated so previous activity pattern can be resumed
 - Conserve patient's strength by careful monitoring of activity to prevent increasing weakness and fatigue.
 - Teach patient to monitor and control activities that provoke fatigue so patient can be an active participant in plan .

Nursing Diagnosis:

- Ineffective therapeutic regimen management related to lack of knowledge of follow-up care as manifested by frequent questions about transmission of disease ,activities allowed ,and general follow-up care.
- Teach patient facts about illness ,modes of transmission ,diet ,activities allowed and avoidance of alcohol.
- Teach use of infection control precautions to reduce risk of cross-contamination.



**DOCTORS ARE THE BRAIN OF HOSPITAL, NURSES ARE THE
HEART OF HOSPITAL, IF BRAIN FAILS HEART WILL MANAGE,
BUT IF HEART FAILS NOTHING WILL MANAGE.....**

PROUD TO BE A NURSE