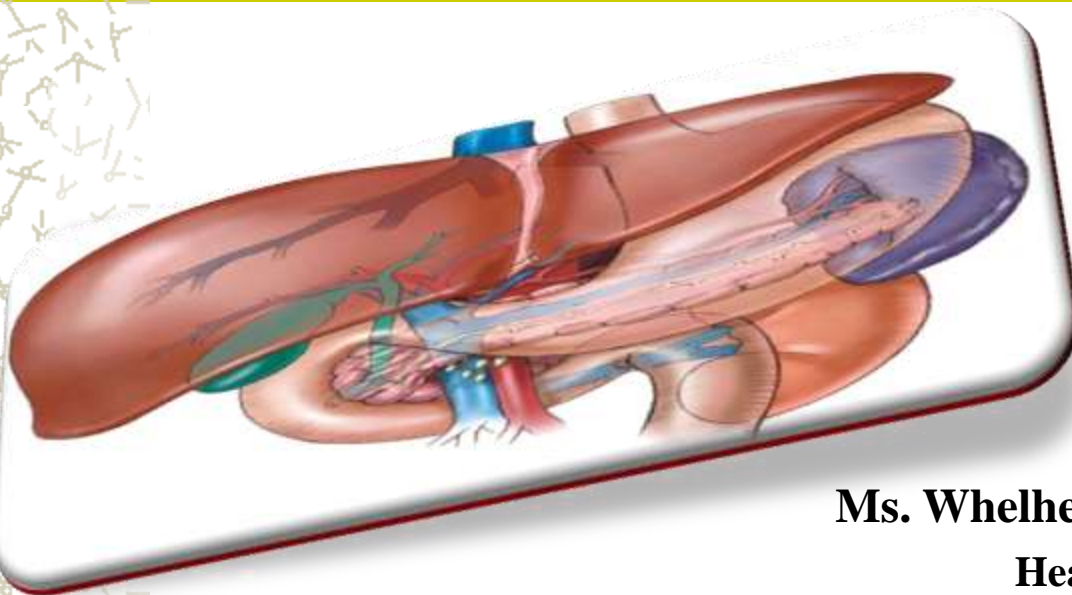


VIRAL HEPATITIS

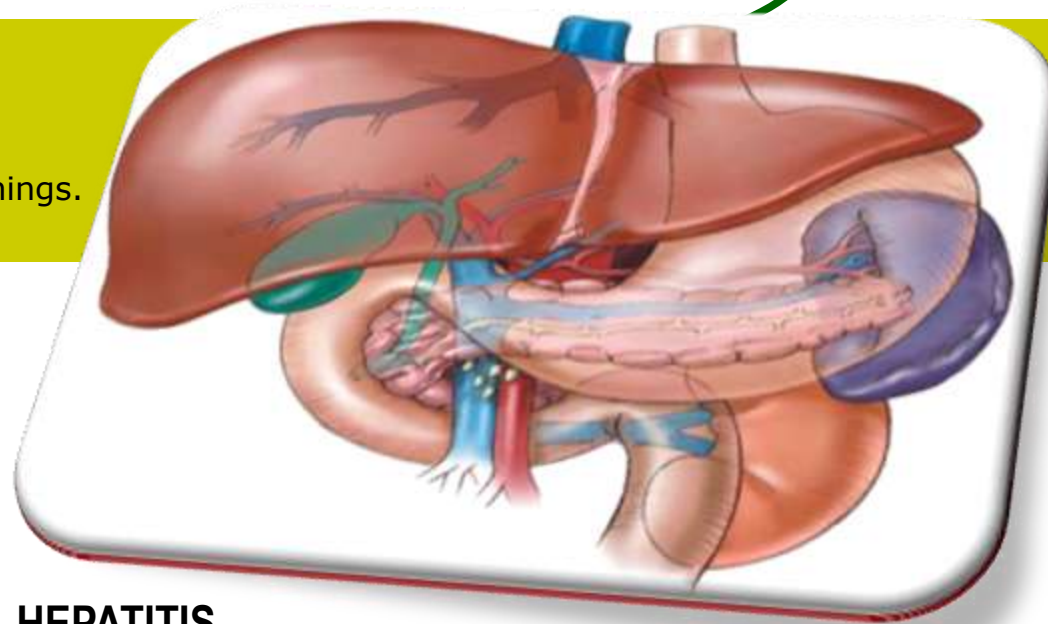


Ms. Whelhelmina Montefrio, BSN, R.N
Head Nurse, Fever Ward

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



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.)

Hep A Patient with Jaundice



HEPATITIS

- **Hepatitis** is a medical condition defined by the inflammation of the liver and characterized by the presence of inflammatory cells in the tissue of the organ.

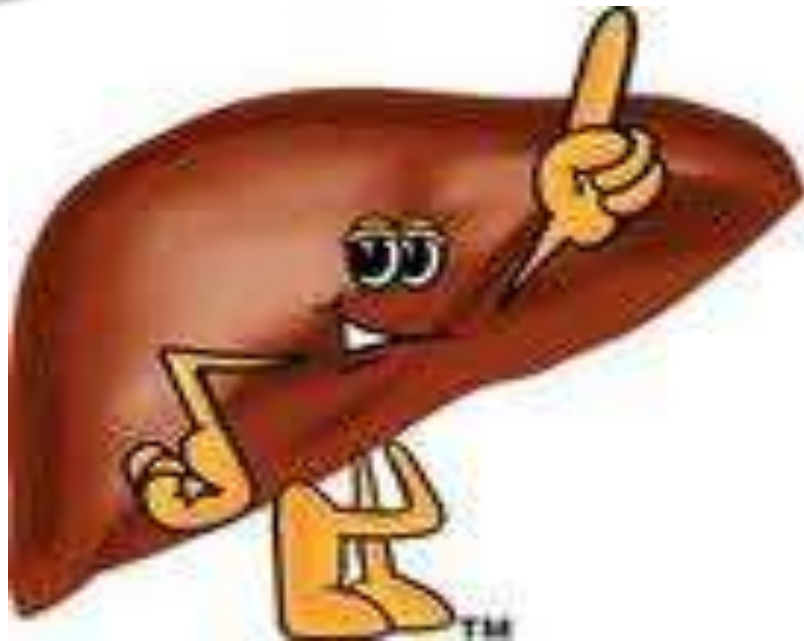


CLASSIFICATION:

- ✦ 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.



HEPATITIS A



Etiology



Hepatitis A virus (HAV)

Is an acute liver disease caused by the hepatitis A virus (HAV), lasting from a few weeks to several months. It does not lead to chronic infection.

Transmission: Ingestion of fecal matter, even in microscopic amounts, from close person-to-person contact or ingestion of contaminated food or drinks.

Vaccination: Hepatitis A vaccination is recommended for all children starting at age 1 year, travelers to certain countries, and others at risk.

cont:

- ✿ has an incubation period of approximately 28 days (range: 15–50 days).
- ✿ HAV replicates in the liver and is shed in high concentrations in feces from 2 weeks before to 1 week after the onset of clinical illness.
- ✿ HAV infection produces a self-limited disease that does not result in chronic infection or chronic liver disease.
- ✿ However, 10%–15% of patients might experience a relapse of symptoms during the 6 months after acute illness.
- ✿ Antibody produced in response to HAV infection persists for life and confers protection against reinfection



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 B





Hepatitis B virus (HBV) "serum hepatitis,"

Is a liver disease caused by the hepatitis B virus (HBV). It ranges in severity from a mild illness, lasting a few weeks (acute), to a serious long-term (chronic) illness that can lead to liver disease or liver cancer.

Transmission: Contact with infectious blood, semen, and other body fluids from having sex with an infected person, sharing contaminated needles to inject drugs, or from an infected mother to her newborn.

Vaccination: Hepatitis B vaccination is recommended for all infants, older children and adolescents who were not vaccinated previously, and adults at risk for HBV infection.

CONT:

- About 6% to 10% of patients with HBV hepatitis develop chronic HBV infection (infection lasting at least six months and often years to decades) and can infect others as long as they remain infected. Patients with chronic HBV infection also are at risk of developing cirrhosis, liver failure, and liver cancer.



Symptoms

Acute infection with hepatitis B virus

Is associated with acute viral hepatitis – an illness that begins with general ill-health, loss of appetite, nausea, vomiting, body aches, mild fever, dark urine, and then progresses to development of jaundice.

- ✚ It has been noted that itchy skin has been an indication as a possible symptom of all hepatitis virus types.
- ✚ The illness lasts for a few weeks and then gradually improves in most affected people.
- ✚ A few patients may have more severe liver disease (fulminant hepatic failure), and may die as a result of it.
- ✚ The infection may be entirely asymptomatic and may go unrecognized





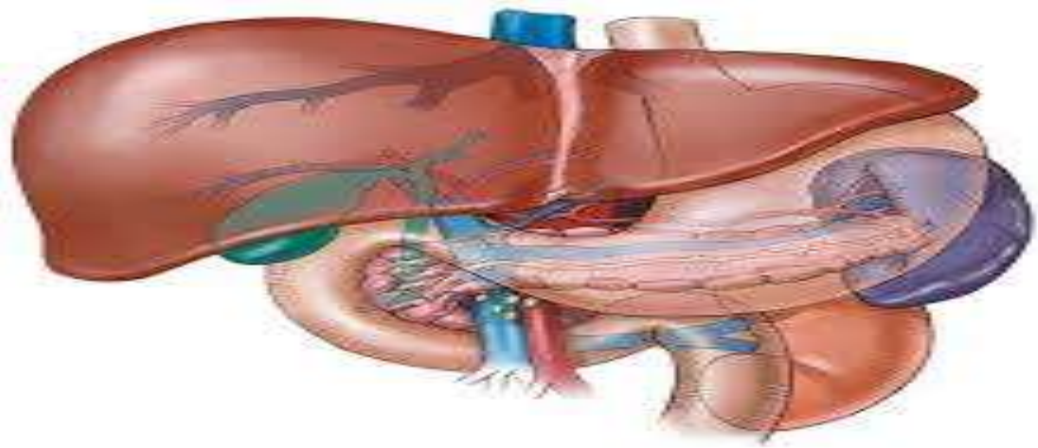
CONT:

Chronic infection with Hepatitis B virus

May be either asymptomatic or may be associated with a chronic inflammation of the liver (chronic hepatitis), leading to cirrhosis over a period of several years.

- ✚ This type of infection dramatically increases the incidence of hepatocellular carcinoma (liver cancer).
- ✚ Chronic carriers are encouraged to avoid consuming alcohol as it increases their risk for cirrhosis and liver cancer.
- ✚ Hepatitis B virus has been linked to the development of Membranous glomerulonephritis (MGN).

HEPATITIS C



Hepatitis C virus (HCV)

Is a liver disease caused by the hepatitis C virus (HCV). HCV infection sometimes results in an acute illness, but most often becomes a chronic condition that can lead to cirrhosis of the liver and liver cancer.

The infection is often asymptomatic, but once established, chronic infection can progress to scarring of the liver (fibrosis), and advanced scarring (cirrhosis).

In some cases, those with cirrhosis will go on to develop liver failure or other complications of cirrhosis, including liver cancer.

Most people have few symptoms after the initial infection, yet the virus persists in the liver in about 80% of those infected.



Transmission: Contact with the blood of an infected person, primarily through sharing contaminated needles to inject drugs.

Vaccination: There is no vaccine for hepatitis C.



SIGNS AND SYMPTOMS

- ✦ Acute hepatitis C refers to the first 6 months after infection with HCV.
- ✦ Symptoms of acute hepatitis C infection include decreased appetite, fatigue, abdominal pain, jaundice, itching, and flu-like symptoms.
- ✦ The hepatitis C virus is usually detectable in the blood within one to three weeks after infection, and antibodies to the virus are generally detectable within 3 to 12 weeks.

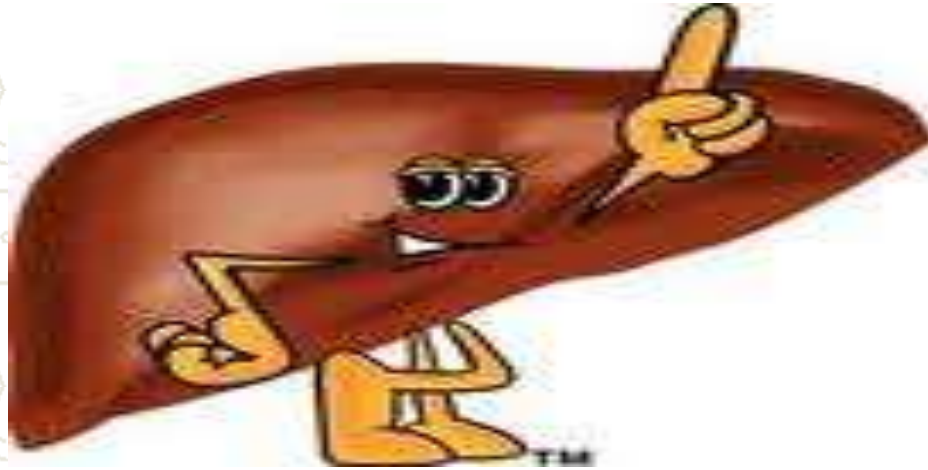


Generalized signs and symptoms associated with chronic hepatitis C include:

- ✿ fatigue
- ✿ marked weight loss
- ✿ flu-like symptoms
- ✿ muscle pain
- ✿ joint pain
- ✿ intermittent low-grade fevers
- ✿ depression,
- ✿ headaches,
- ✿ and mood swings.
- ✿ itching, sleep disturbances
- ✿ abdominal pain (especially in the right upper quadrant),
- ✿ appetite changes
- ✿ nausea,
- ✿ diarrhea,
- ✿ dyspepsia,
- ✿ cognitive changes,



HEPATITIS D



Hepatitis D virus (HDV)

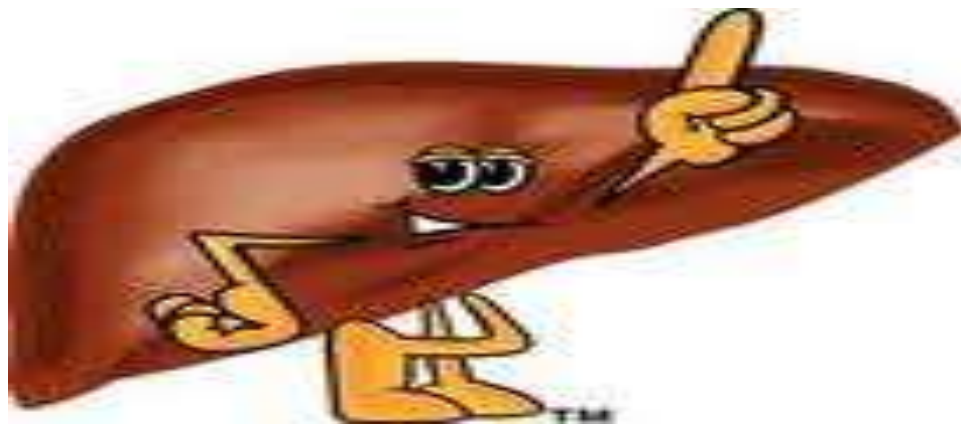
Is a serious liver disease caused by the hepatitis D virus (HDV) and relies on HBV to replicate.

Transmission: Contact with infectious blood, similar to how HBV is spread.

Vaccination: There is no vaccine for hepatitis D.



HEPATITIS E





Hepatitis E virus (HEV)

Is a serious liver disease caused by the hepatitis E virus (HEV) that usually results in an acute infection. It does not lead to a chronic infection. While rare in the United States, hepatitis E is common in many parts of the world.

Hepatitis E virus (HEV) is similar to HAV in terms of disease, and mainly occurs in Asia where it is transmitted by contaminated water.

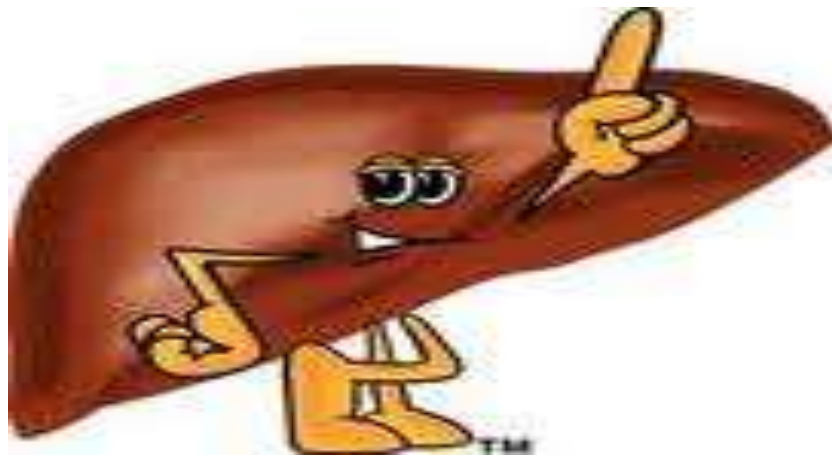


CONT:

Transmission: Ingestion of fecal matter, even in microscopic amounts; outbreaks are usually associated with contaminated water supply in countries with poor sanitation.

Vaccination: There is currently no FDA-approved vaccine for hepatitis E.

HEPATITIS G

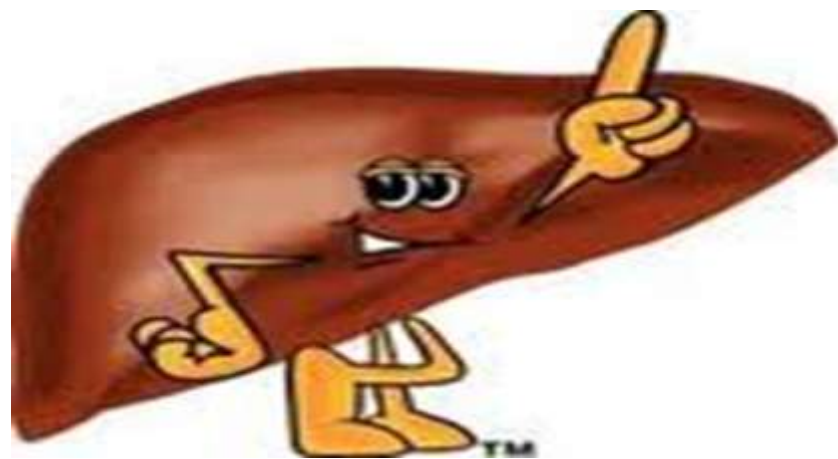


Hepatitis G virus (HGV)

- **Hepatitis G virus (HGV)** was recently discovered and resembles HCV; the virus and its effects are under investigation but some investigators do not recognize it as a cause of hepatitis.



HEPATITIS F



Hepatitis F

- ✦ A hypothetical virus link to HEPATITIS. However, an infection found in the Far East has shown that a new virus which is neither Hepatitis B or C the virus called HAF consist of double – stranded DNA & is substantially different from HAV & HEV, both of which are RNA based.
- ✦ Several Hepatitis F candidates emerged in the 1990's; none of these reports have been substantiated



INCUBATION PERIOD



Incubation period

➤ HA	15-45 days	30 days
➤ HB	30-180 days	70 days
➤ HC	15-150 days	50 days
➤ HD	similar to HB	
➤ HE	10-70 days	40 days





Laboratory examination



Laboratory examination

Liver function

➤ **Serum transaminase**

- ALT(alanine transferase) ↑
- AST(aspartase transferase) ↑
- ALP (Alkaline phosphatase) ↑
- in chronic hepatitis LDH (Lactate dehydrogenase) ↑

➤ **Serum protein**

- Albumin ↓
- In chronic hepatitis Ig ↑↑
- The ratio of A/G ↓

➤ **Bilirubin**

- Urobilinogen ↑ in early stage of AIH



Detection of the markers of hepatitis virus:

Hepatitis A

- Serologic marker
 - Anti-HAVIgM: recent infection
 - Anti-HAVIgG: past infection
- Marker of feces
 - HAV particles may be detected by RIA or IEM
 - Isolation of HAV may use tissue culture or animal inoculation

Hepatitis B

- Sero-immunologic marker
 - HBsAg anti-HBs
 - HBcAg anti-HBc
 - HBeAg anti-Hbe
- Molecular biological marker
 - DNAp
 - HBV DNA
 - Immune tissue chemistry examination

CONT:

- Ultra-sound examination
- Liver biopsy
- Other laboratory examination
 - Blood routine
 - Urine routine



Hepatitis C

- Serological marker
 - Anti-HCVIgM
 - Anti-HCVIgG
- Molecular biologic marker
 - HCV RNA may be detective by RT-PCR 1-2 weeks after infection of HCV
 - Quality of HCV RNA
 - Immune tissue chemistry method detect HCAg within liver cells

Hepatitis D

- HDAg anti-HDV
- HDV RNA

Hepatitis E

- Anti-HEVIgG, Anti-HEVIgm
- RT-PCR
- HEV particais: IF IEM

NURSING INTERVENTION



CONT:

- Observe standard precautions to prevent disease transmission.
- Provide rest periods throughout the day.
- Schedule treatments and tests so the patient can rest between activities.
- To help the patient maintain an adequate diet, avoid overloading his tray.



CONT:

- Administer supplemental vitamins and commercial feedings, as ordered.
- Provide adequate fluid intake at least 4 liters of liquid daily.
- Observe the patient for desired and adverse effects of medication.
- Record the patient's weight daily, and keep accurate intake and output records.



CONT:

- ⚡ Watch for signs of complications, such as changes in level of consciousness, ascites, edema, dehydration, respiratory problems, myalgia, and arthralgia.
- ⚡ Teach the patient about the disease, its signs and symptoms, and recommended treatments.
- ⚡ Explain all the necessary diagnostic tests.
- ⚡ Stress the importance of continued medical care.





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