

HEPATITIS B

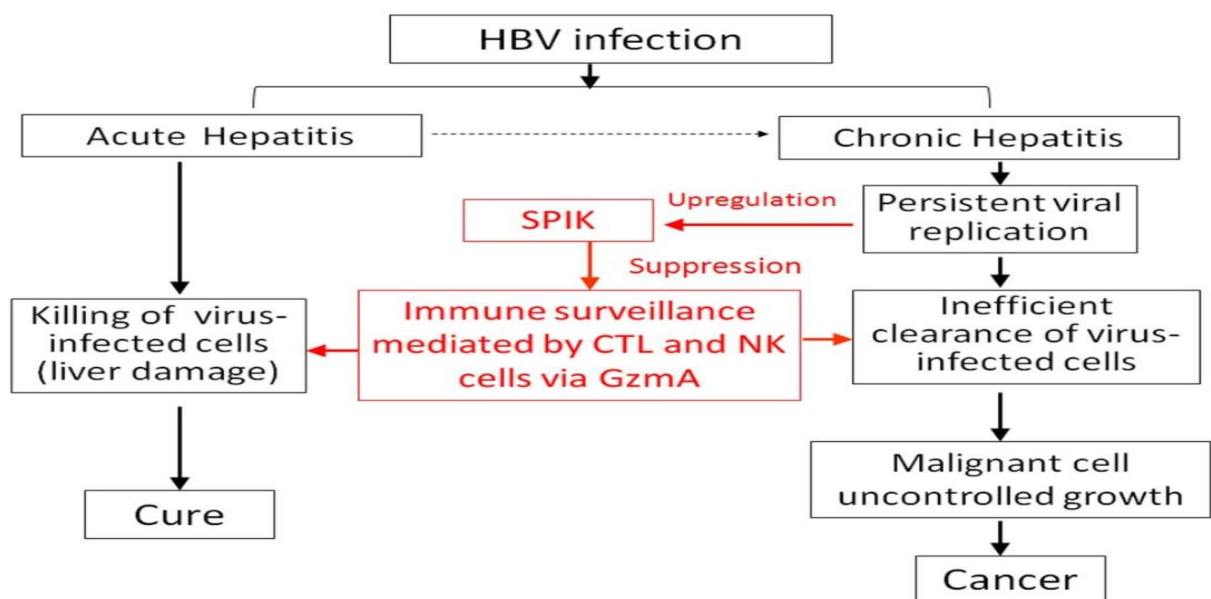
- Hepatitis B caused by hepatitis B virus (HBV).
- Humans are the only source of infection.
- The risk of progression to chronic liver disease depends on the source and timing of infection.
- Vertical transmission from mother to child in the perinatal period is the most common cause of infection worldwide and carries the highest risk of ongoing chronic infection.

Several **mechanisms** contribute towards this:

1. Firstly, the introduction of antigen in the neonatal period is tolerogenic.
2. Secondly, the presentation of such antigen within the liver.
3. Finally, very high loads of antigen may lead to chronic hepatitis.

Chronic hepatitis can lead to cirrhosis or hepatocellular carcinoma, usually after decades of infection.

- **Causes**



Symptoms of hepatitis B

- Abdominal pain.
- Dark urine ,Fever, Joint pain, Loss of appetite, Nausea and vomiting.
- Weakness and fatigue.

- Yellowing of your skin and the sclera of your eyes (jaundice)

INVESTIGATIONS

- Polymerase chain reaction (PCR) techniques used to measure viral DNA levels in peripheral blood guided direct assessment of viral load.

Hepatitis B surface antigen

- Hepatitis B surface antigen (HBsAg) is an indicator of active infection.
- In **Acute hepatitis B** it may appear only transiently.
- In chronic infection, the persistence of HBsAg is longer than 6 months.
- **Chronic HBV infection** is marked by the presence of HBsAg and antibodies (IgG) in the blood.

Prevention

- Vaccination- Highly effective recombinant vaccine
- Hepatitis B Immunoglobulin (HBIG) - WHO recommends joint immunoprophylaxis for the newborn, multiple injections of small doses of hepatitis B immune globulin (HBIG, 200–400 IU per month) and oral lamivudine (100 mg per day) for HBV carrier mothers with a high degree of infectiousness in late pregnancy
- Other measures - screening of blood donors, blood and body fluid precautions

TREATMENT OF HEP. B:

Treatment to prevent hepatitis B infection after exposure

If you know you've been exposed to the hepatitis B virus and aren't sure if you've been vaccinated, call your doctor immediately. An injection of immunoglobulin (an antibody) given within 12 hours of exposure to the virus may help protect you from getting sick with hepatitis B. Because this treatment only provides short-term protection, you also should get the hepatitis B vaccine at the same time, if you never received it.

Treatment for acute hepatitis B infection

If your doctor determines your hepatitis B infection is acute — meaning it is short-lived and will go away on its own — you may not need treatment. Instead, your doctor might recommend rest, proper nutrition and plenty of fluids while your body fights the infection. In severe cases, antiviral drugs or a hospital stay is needed to prevent complications.

Treatment for chronic hepatitis B infection

Most people diagnosed with chronic hepatitis B infection need treatment for the rest of their lives. Treatment helps reduce the risk of liver disease and prevents you from passing the infection to others. Treatment for chronic hepatitis B may include:

A. Antiviral medications.

Several antiviral medications — including entecavir (Baraclude), tenofovir (Viread), lamivudine (Epivir), adefovir (Hepsera) and telbivudine (Tyzeka) — can help fight the virus and slow its ability to damage your liver. These drugs are taken by mouth. Talk to your doctor about which medication might be right for you.

B. Interferon injections.

Interferon alfa-2b (Intron A) is a man-made version of a substance produced by the body to fight infection. It's used mainly for young people with hepatitis B who wish to avoid long-term treatment or women who might want to get pregnant within a few years, after completing a finite course of therapy. Interferon should not be used during pregnancy. Side effects may include nausea, vomiting, difficulty breathing and depression.

C. Liver transplant.

If your liver has been severely damaged, a liver transplant may be an option. During a liver transplant, the surgeon removes your damaged liver and replaces it with a healthy liver. Most transplanted livers come from deceased donors, though a small number come from living donors who donate a portion of their livers.

- **Hepatitis B Vaccine**

Composition: Recombinant HBsAg

Efficacy: 95% (Range, 80%-100%)

Duration of Immunity: >15 years

Schedule: 3 Doses

Booster doses not routinely recommended

REFERENCES

1. Clinical pharmacy and therapeutics by Roger walker
2. Lippincott illustrated reviews Pharmacology