

Hepatitis B

An estimated 240 million people have chronic HBV infection globally.

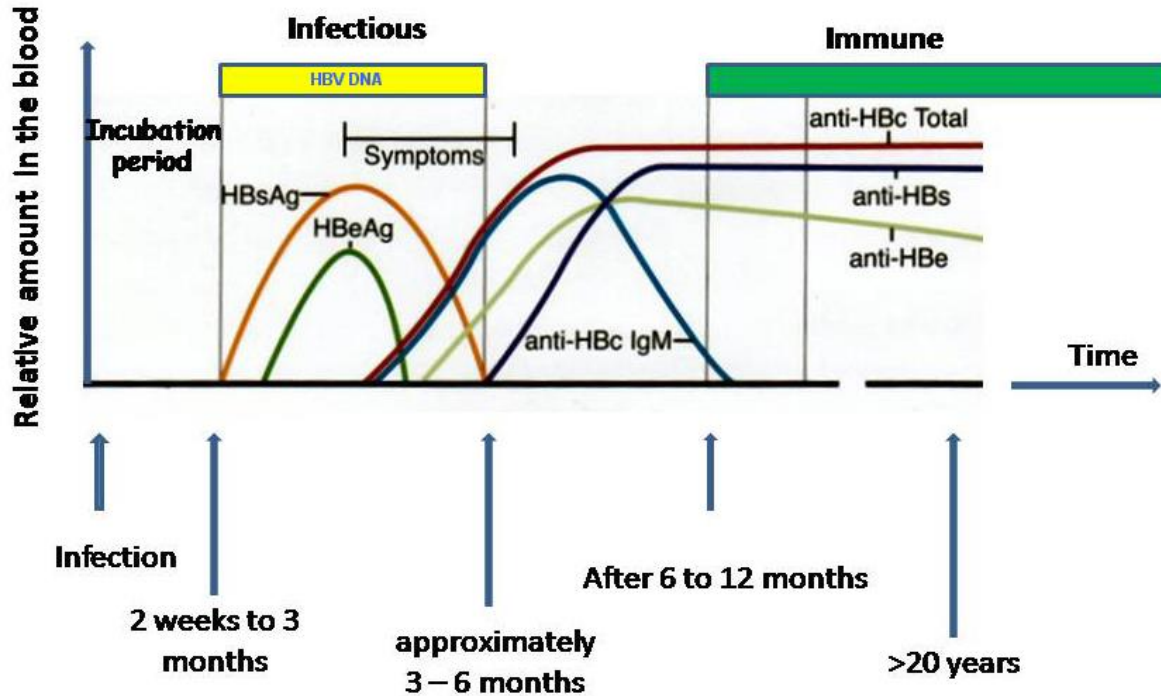
HBV considered one of the etiological agent to hepatocellular carcinoma in up to 80% of cases.

CLINICAL PRESENTATION

HBV infection primarily affects the liver. Typically, the incubation period for hepatitis B is 90 days (range, 60–150 days). The usual signs and symptoms include malaise, fatigue, anorexia, nausea, vomiting, abdominal pain, and jaundice. In children aged <5 years and immunocompromised adults, acute HBV infection is typically asymptomatic. The overall case-fatality ratio of acute hepatitis B is approximately 1%.

Acute hepatitis B progresses to chronic HBV infection in 30%–90% of people infected as infants or young children and in <5% of people infected during adolescence or adulthood. Chronic infection with HBV may result in chronic liver disease, including cirrhosis and liver cancer.

HBV antigens and antibodies in the blood



HBsAg: Hepatitis B surface antigen is the earliest indicator of **acute infection** and is also indicative of **chronic infection** if its presence persists for more than 6 months.

HBcAg: is a marker of the infectious viral material and it is **the most accurate index of viral replication**.

HBeAg: Hepatitis B e antigen appearing during **weeks 3 to 6** indicates an **acute active infection** at its most **infectious** period continuous presence of anti-HBe indicates chronic or chronic active liver disease

Mode of transmission: Blood transfusion or blood products, tattooing, drug addicts, mass immunization, perinatally from mother, hetero and homosexual, injury from work or even sport.

The carrier state (defined as the presence of HbsAg for more than 6 months. Globally, early childhood infections are the most important.

The HbcAg is a valuable marker of infectivity of HbsAg positive serum.

DIAGNOSIS

Serologic markers specific for hepatitis B are necessary to diagnose HBV infection and to identify the stage of infection (Table below). These markers can be used to differentiate between acute, resolving, and chronic infection.

SEROLOGIC MARKER

INTERPRETATION

| HBsAg | TOTAL ANTI-HBc | IgM ANTI-HBc | ANTI-HBs | |
|----------|----------------|--------------|----------|---|
| - | - | - | - | Never infected |
| + | - | - | - | Early acute infection; transient (up to 18 days) after vaccination |
| + | + | + | - | Acute infection |
| - | + | + | + or - | Acute resolving infection |
| - | + | - | + | Recovered from past infection and immune |
| + | + | - | - | Chronic infection |
| - | + | - | - | False-positive (susceptible); past infection; or passive transfer of anti-HBc to infant born to HBs Ag-positive mother |
| - | - | - | + | Immune if concentration is ≥ 10 mIU/mL after vaccine series completion; passive transfer after hepatitis B immune globulin |

TREATMENT

No specific treatment is available for acute hepatitis B. Supportive treatment, including hospitalization, may be indicated for some people with severe clinical manifestations. Antiretroviral drugs are approved to treat chronic hepatitis B.

Control

-Hygiene practice in high risk areas.

- Hepatitis B immunoglobulin (HbIG)

- HbsAg vaccine : 3doses (0,1, and 6months). Vaccination required for health care staff, drug users, homosexual.

-WHO recommend that all children should be vaccinated during the 1st year of life.

Hepatitis C (HCV)

Contains 6 different genotype(1-6).

Incubation period: 8 weeks.

Chronic infection usually asymptomatic later cases progress to liver cirrhosis and hepatocellular carcinoma.

Epidemiology

Worldwide distribution. The route is parenteral (i.v drug users and blood transfusion).

Transplanted organs, tattooing, unsterile needle, dental.

Control

Interferon for treatment of chronic hepatitis associated with HCV infection, Screening blood donors, Health education for drug abuser. No vaccine is currently available.

Hepatitis delta (HDV)

Can exist only in the presence of HBV. It gives more severe form of hepatitis

Blood borne infection.

Control through HBV vaccination and screening of blood.

Hepatitis G (HGV)

Co-infection with HCV. Has similar role to HCV found in haemophilia, thalassaemia patients, dialysis, addicts, blood handling.

Hepatitis E (HEV)

Like HAV, causes malaise, anorexia, jaundice, and liver enzyme elevation.

Incubation period: 40 days.

Occurred in pregnant women in India.

Endemic in the over 16 years group (unlike hepatitis A usually occurs before the age of 5 years).

Control

Like HAV, safe drinking water and sanitary disposal of faeces. No vaccine yet available.

