

# hepatitis B

The term "hepatitis" is used to describe a common form of liver injury. Hepatitis simply means "inflammation of the liver". Hepatitis B is a specific type of hepatitis that is caused by a virus.

## TRANSMISSION

The hepatitis B virus can be transmitted in a many ways. It is transmitted by :

### contaminated needles

Any activity that transfers blood or body fluids beneath the skin can transmit the hepatitis B virus. This includes tattooing, acupuncture, and ear piercing. Needle sharing among injection drug users is another cause of transmission.

### Sexual transmission

Transmission by unprotected sexual intercourse is the most common type of transmission of hepatitis B in developed countries. It accounts for about 30 % of new cases of hepatitis B virus infection in the United States.

### Perinatal transmission

Perinatal transmission refers to transmission from a mother to her baby near the time of birth. There is no evidence that cesarean section prevents maternal-infant transmission, and breast-feeding does not appear to increase the risk of transmission. Infants of mothers known to have hepatitis B are usually given hepatitis B immunoglobulin and the hepatitis B vaccine as soon as possible after birth .

### close contact

Hepatitis B transmission can occur through close personal contact. Because the virus can survive outside the body for long periods of time, transmission can also occur by sharing household items that carry the virus, including toys, toothbrushes, and razors.

### Blood transfusion

Blood transfusion is now an uncommon route for the transmission of hepatitis B virus. Blood donors are carefully screened.

### hospital setting

In the hospital setting, hepatitis B virus can be transmitted from patient to patient or from patient to health care provider through contaminated needles or instruments. Measures to reduce this risk include using gloves, eye protection, a face mask, and hand washing, when appropriate.

## Organ transplantation

Hepatitis B virus can be transmitted in donated livers and other organs. However, organ donors are routinely screened for hepatitis, which usually prevents this type of transmission.

## SYMPTOMS

Most infected people, even those with progressive disease, have no specific symptoms for many years. However, the absence of symptoms does not necessarily mean that the infection is under control. All persons who have chronic infection with hepatitis B are at increased risk of developing complications that include the development of liver scarring and liver cancer.

### Symptoms of Acute hepatitis B

The symptoms of acute hepatitis B usually appear 1 to 4 months after infection. The first symptoms may be non-specific, including fever, skin rash, and joint pain and inflammation. Although many people have no symptoms at all, symptoms of acute hepatitis may include fatigue, loss of appetite, nausea, jaundice, and pain in the upper right abdomen.

### Symptoms of Chronic hepatitis B

The symptoms of chronic hepatitis B can vary widely and can last for many years. Many people who carry the virus have no symptoms at all; other people have symptoms of ongoing liver inflammation, such as fatigue and loss of appetite.

About 10 to 20% of people with chronic hepatitis B develop complications in other organs and tissues outside the liver; vascular inflammation and kidney disease are the two most common complications. People with chronic hepatitis B who develop cirrhosis or liver cancer may experience symptoms such as fatigue, weight loss, fluid accumulation in the abdomen and legs, bleeding, mental confusion, and abdominal pain.

## DIAGNOSIS

The diagnosis of hepatitis B is based upon a careful review of a person's medical history, the signs and symptoms noted during a physical examination, and the results of diagnostic tests.

### diagnostic tests

diagnostic tests provide information about the presence of liver damage and help determine the severity of damage and whether it has stopped or is ongoing.

- - During acute hepatitis B, blood levels of two liver enzymes (ALT and AST), are usually elevated (may be more than 1000 IU/L). In most people with acute hepatitis, levels return to normal within one to four months.

- - High blood levels of bilirubin often signal more severe liver damage. High bilirubin levels give rise to jaundice, which is yellowing of the skin and eyes and darkening of the urine.
- - Low blood levels of albumin, often signal chronic liver damage.
- - An abnormally long prothrombin time (a measure of the time required for blood clotting) or high INR suggests more severe liver damage.

## Hepatitis markers

Levels of several hepatitis markers found in the blood can confirm hepatitis B infection and differentiate acute from chronic infection.

The diagnosis of acute hepatitis B is based upon the presence of the HBsAg. The diagnosis of chronic hepatitis B is based on the presence of the HBsAg marker for at least six months.

In acute hepatitis, HBV DNA can be detected soon after infection. In chronic hepatitis, levels of HBV DNA often remain high for many years and then decrease as the immune system gains control over the virus.

## Liver biopsy

During a liver biopsy, a small sample of liver tissue is collected for microscopic examination. Liver biopsy is used for monitoring the progression of liver damage in people with chronic hepatitis, helping to decide if treatment is needed, and for detecting cirrhosis or liver cancer.

## TREATMENT

There is no specific treatment for acute hepatitis B; in 95 % of adults, the immune system controls the infection. In people who develop chronic hepatitis, the goals of treatment are to stop the virus from multiplying to reduce or reverse liver damage.

Regular screening for liver cancer is recommended by an annual or biannual ultrasound examination and blood test for the alpha fetoprotein level.

### Antiviral therapy

Six drugs that can slow or stop multiplication of the hepatitis B virus are available:

lamivudine

adefovir

entecavir

telbivudine

interferon-alpha

pegylated interferon-alpha.

## Factors that influence prognosis

Prognosis is largely influenced by the extent of viral multiplication and the immune system's ability to control the

infection. Other factors that appear to worsen the course of hepatitis include male gender, habitual alcohol

consumption, and coinfection with other hepatitis viruses.

### **Diet :**

No specific diet has been shown to improve the outcome in patients with hepatitis B. The best advice is to eat a normal healthy and balanced diet.

### **Alcohol :**

Alcohol should be avoided since it can worsen liver damage. All types of alcoholic beverages can be harmful to the liver.

### **Exercise :**

Exercise is good for overall health and is encouraged, but it has no effect on the virus.

### **Herbal medications :**

Although many claims about herbal medications have been made, no herbal treatment has been proven to improve outcomes in patients with hepatitis B, and some can cause serious liver toxicity.

## IMPLICATIONS FOR THE FAMILY

Acute and chronic hepatitis B are contagious. Thus, people with hepatitis B should discuss measures to reduce the risk of infecting others. This usually involves minimizing blood and bodily fluid exposure, testing immediate family and household members, and vaccinating those at risk for acquiring the infection.