

Chronic Hepatitis B (CHB)

What is Hepatitis B?

- Hepatitis B (Hep B) is a liver disease caused by the hepatitis B virus (HBV) which is present in the blood and body fluids of an infected individual. The virus infects liver cells, resulting in cirrhosis (liver scarring), liver cancer, liver failure, and ultimately death.¹

Acute vs Chronic Hepatitis B

- When a person is first infected with HBV, they are said to have an acute infection.
- Symptoms of acute infections include loss of appetite, tiredness, muscle, joint or abdominal pain, diarrhea and jaundice (i.e. yellowish skin or eyes).
- If the infection persists for more than six months, it is then classified as chronic infection.²
- Symptomatic or not, approximately 5-10 per cent of adults and 95 per cent of peri-natally infected infants are unable to clear the virus, thus becoming chronic carriers.³

Symptoms of CHB Infections

- Many patients with CHB experience no symptoms, while others may experience symptoms including:⁴
 - Jaundice
 - Fatigue
 - Abdominal pain
 - Loss of appetite
 - Nausea
 - Vomiting
 - Joint pain
- In its early stages, CHB infection generally causes only mild or non-specific symptoms, so many people may not realize that they are infected until the disease is far advanced and the risk of cirrhosis and/or liver cancer is much higher.⁵

Transmission of HBV

- HBV present in the blood and body fluids. HBV is highly infectious – 50 to 100 times more infectious than the HIV virus.⁶
- Mother can pass the virus to her baby at birth if she is a CHB carrier.¹
- Unsafe sex, unsafe transfusion, sharing or reusing needles or syringes for injection, open wound contact can also transmit HBV.¹
- HBV is not spread through food or water, sharing eating utensils, breast feeding, hugging, kissing, coughing, sneezing or by casual contact.

High Risk Groups of HBV Infections⁷

- Persons with multiple sex partners or diagnosis of a sexually transmitted disease
- Men who have sex with men
- Sexual contact with infected persons
- Injection-drug users
- Household contact with chronically infected persons
- Infants born to infected mothers
- Hemodialysis patients
- Children adopted from countries where hepatitis B is common (Asia, Africa, South America, Pacific Islands, Eastern Europe, and the Middle East)
- Healthcare and public safety workers with exposure to blood

Types of HBV⁸

People with CHB can be categorized according to the presence (HBeAg-positive) or absence (HBeAg-negative) in the blood of e antigen (HBeAg), a viral protein that is secreted by HBV-infected cells.

HBeAg-negative patients at one time were HBeAg-positive and achieved seroconversion. However, in some patients hepatitis B virus continues to replicate, causing a return of progressive liver disease.

HBeAg-negative patients are usually older, have been infected with HBV for a longer period of time and have more advanced liver disease. When disease reactivates in these patients, viral load often fluctuates, with an immune reaction that can accelerate disease progression. Treatment is often difficult due to the more advanced and variable disease, and the frequent need for long-term therapy.

Aim of Treatments

There is no cure for hepatitis B. Treatment can only slow down disease progression.

The primary goal of treatment is to permanently stop hepatitis B viral replication.⁹

During therapy, ALT, HBeAg and HBV DNA should be monitored once at least every three months.¹⁰

The level of serum DNA correlates with the degree of hepatitis B viral replication. Undetectable level of HBV-DNA indicates the virus has minimal ability to replicate. Hepatitis B e-seroconversion indicates a restoration of most immune control in viral replication with a significant decrease in viral replication and this correlates with sustained disease remission.

The guideline recommends HBeAg positive patients who achieve e-seroconversion and non-detectable HBV DNA on two separate occasions at least six months apart, can consider stopping treatment.¹⁰

HBeAg negative patients, who achieve non-detectable HBV DNA on three separate occasions at least six months apart, can consider stopping treatment.¹⁰ This group of patients tends to be older, been infected longer and are more difficult to treat.

The monitoring of HBV DNA level at week 24 is important as it is a useful predictor of treatment outcome.¹¹ Recent research indicated that a HBeAg positive patient* who was treated with telbivudine and had achieved undetectable HBV-DNA level at week 24 will have around 50 percent chance to achieve the status of e seroconversion at the end of two years of treatment.¹²

Treatment Options

- There are six treatment options for CHB, including Interferon-alpha (IFN), pegylated interferon (Pegylated IFN), adefovir, lamivudine, entecavir, and telbivudine
- IFN is given by injection several times a week for six months to a year. The drug can cause side effects such as flu-like symptoms, depression, and headaches.¹³
- Pegylated Interferon is given by injection once a week usually for six months to a year. The drug can cause side effects such as flu-like symptoms, depression and other mental health problems.
- Lamivudine is a pill that is taken once a day, with almost no side effects, for at least one year or longer. A primary concern is the possible development of hepatitis B virus mutants during and after treatment.¹³
- Adefovir dipivoxil is a pill taken once a day, with few side effects, for at least one year or longer. The primary concern is that kidney problems can occur while taking the drug.
- Entecavir is a pill taken once a day, with a low level of resistance and almost no side effects for up to one year.¹³
- Telbivudine is latest once daily oral treatment introduced in Hong Kong. It can be taken without food.

It is important to know that not every CHB patient needs to be on medication. Some patients only need to be monitored by their doctor on a regular basis. Other patients with active signs of liver disease may benefit the most from treatment. Patients should talk to their doctor about whether he/she can benefit from treatment and explore treatment options.

Prevention of Hepatitis B Infections

- Hepatitis B vaccine
- Handle an open wound carefully; make sure it is properly bandaged.¹⁴
- Wear gloves when expect to be in contact with blood.
- Do not share razors and toothbrushes or needles.
- Make sure clean, disposable instruments are used when undergoing procedures like tattooing and mole removal.
- Limit the number of sexual partners. Practice safe sex and use condoms properly. If your sexual partner is known to be a CHB carrier, receive the hepatitis B vaccine as soon as possible.

Notes to Editor :

* HBeAg positive patients with ALT>2X ULN and HBV DNA > 100,000 copies/ml (2x 10⁴ IU/ml)

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References

- ¹ Centers for Disease Control and Prevention. Hepatitis B frequently asked questions. Available at www.cdc.gov/ncidod/diseases/hepatitis/b/faqb.htm Accessed 12/16/05
- ² Lin KW, Kirchner JT. Hepatitis B. American Family Physician 2004; 69(1):75-82
- ³ Department of Health: Viral Hepatitis Preventive Service: What is Hepatitis? Available at: http://www.info.gov.hk/hepatitis/english/hep_b_set.htm
- ⁴ Centers for Disease Control and Prevention. Hepatitis B fact sheet. Available at www.cdc.gov/ncidod/diseases/hepatitis/b/fact.htm. Accessed 3/6/07
- ⁵ Asian Liver Center at Stanford University. Available at: http://liver.stanford.edu/Edu/Edu_hepbinsians.php. Accessed 3/7/07.
- ⁶ World Health Organization. Hepatitis B fact sheet number 204.
- ⁷ Hepatitis B Foundation: High Risk Groups. Available at http://www.hepb.org/professionals/high-risk_groups.htm
- ⁸ Keeffe EB, Dieterich D, Han S, et al. A Treatment Algorithm for the Management of Chronic Hepatitis B Virus Infection in the United States: An Update. Clinical Gastroenterology and Hepatology 2006; (4):936-62.
- ⁹ Liaw YF, Leung N, Guan R, "Asian-Pacific consensus statement on the management of chronic hepatitis B: a 2005 update" Liver International 2005;25:472-489
- ¹⁰ Liaw YF, 2008 APASL guidelines for HBV management
- ¹¹ Keeffe EB, Zeuzem S, Koff R et al, "Report of an International Workshop: Roadmap for Management of Patients Receiving Oral Therapy for Chronic Hepatitis B", Clinical Gastroenterology and Hepatology 2007;5:890-897
- ¹² An abstract presented at American Association for the Study of Liver Diseases (AASLD) Annual Meeting; November 2-6, 2007; Boston, MA, USA.
- ¹³ Hepatitis B Foundation: Hepatitis B Treatments. Available at <http://www.hepb.org/06-0268.hepb>
- ¹⁴ Department of Health: Viral Hepatitis Preventive Service: What is Hepatitis? Available at: http://www.info.gov.hk/hepatitis/english/hep_b_set.htm