One person dies every 30 seconds from
Viral Hepatitis in the Asia Pacific region

The clock is ticking

Act now to protect the next generation

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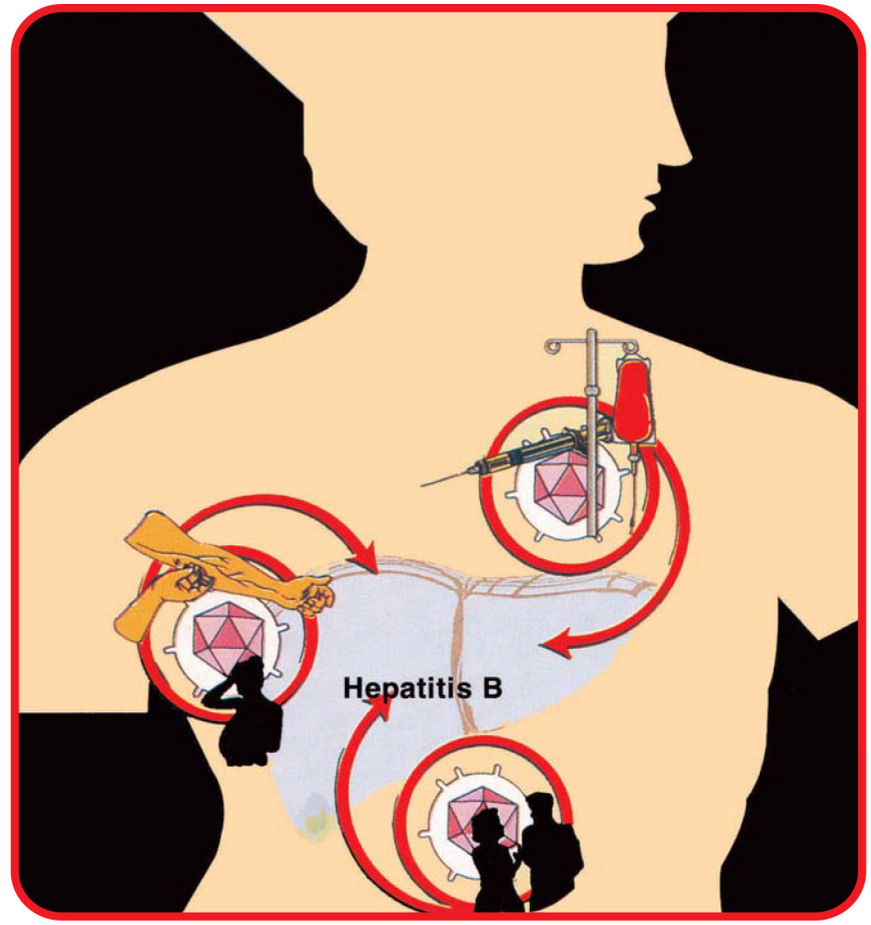
August 2013 ICN # 215637

Information for Patients

HEPATITIS B



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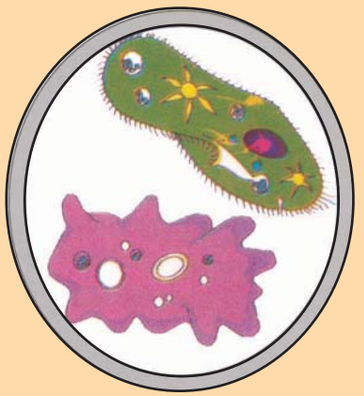
What is hepatitis B?

Hepatitis means inflammation of the liver. It has a number of different causes, the most common being damage cassed by a virus. Hepatitis B is one of the viruses that can damage the liver. Others include Hepatitis A, C, D and E viruses, and sometimes, the Epstein-Barr (glandular fever) virus and cytomegalovirus (CMV). Hepatitis B virus (or HBV) multiplies in the liver cells.

- **Hepatitis B is a germ (virus) that gets into your body and attacks your liver.**
- **Your liver helps your body to digest the food you eat.**
- **It also helps your body get rid of poisons.**



How does hepatitis B spread?

Hepatitis B is spread by contact with blood and other bodily fluids, usually through a breach in the skin or contact with internal lining surfaces of the body. The various ways people can acquire hepatitis B include:

- from a carrier mother to her baby at around the time of birth. This is the most common way for the virus to spread in some parts of the world including Pakistan.
- by use of injecting drugs (at any time in the past or present).
- by sexual contact.
- by blood transfusion. This is unfortunately still a common mode of transmission in Pakistan, as we do not have adequate blood screening facilities and well-organised transfusion services.
- by tattooing with unsterilised needles.
- by accidental inoculation (i.e. needle stick) or splashing with infected blood or secretions (e.g. health care workers).
- babies of infected mothers (all pregnant women should be tested for Hepatitis B);
- people who have had accidental exposure (e.g. at work):
- health care workers;
- household, family or sexual contacts of carriers;
- sexually active homosexual or bisexual men:
- health industry workers;
- injecting drug users;
- renal dialysis patients;
- clients and staff of institutions for the intellectually challenged (mentally retarded);
- haemophiliacs and others who can expect to receive multiple blood or blood product transfusions, especially if these are given overseas;
- prisoners and prison staff;
- international travellers.

- There are over 350 million hepatitis B carriers in the world.
- Hepatitis B is a leading cause of liver cancer.
- Hepatitis B, if acquired in the first year of life. results in over 90% lifelong carrier status with a potential for liver damage leading to liver cancer.
- Blood transfusion. intravenous drug abuse, use of contaminated syringes, needles and surgical equipment and unprotected sex with an infected partner transmit hepatitis B.

Note: All pregnant women should be tested for hepatitis B so that if they are carriers of the disease, their babies can be vaccinated.

How can the doctor tell if you are infected with HBV and whether you have any liver damage?

There are many tests which assist doctors in assessing liver damage, or likelihood of future liver damage from hepatitis B. The interpretation of these tests is not always straightforward, and sometimes a specialist's advice is needed. Some of the more important tests are:

- Hepatitis B surface antigen: This test is to see whether or not you are infected with hepatitis B virus.
- Hepatitis B e antigen: This blood test tells the doctor whether or not the virus is continuing to multiply in the liver. People who have HB e antigen are more infectious to others than those who do not. They are also at a greater risk of continued liver damage.
- Hepatitis B virus DNA: This is another test for ascertaining activity or replication rate of the virus.
- Hepatitis B surface antibody: This blood test is positive if someone has had Hepatitis B, cleared the virus, and is now immune. People who have had successful Hepatitis B vaccination also usually have a positive Hepatitis B surface antibody, indicating that they are immune.
- Liver function tests: Blood tests, which give an estimate of liver inflammation or damage. The "ALT" or (alanine amino transferase) test is a reasonably good guide.
- Liver ultrasound or scan: These tests use inaudible sound waves (sonar) to give the doctor pictures of liver and assist him/her in diagnosing cirrhosis or liver cancer.
- Liver biopsy: This is the removal of a tiny piece of liver under local anaesthetic and is used on occasions to assess damage in the liver.
- Alpha-fetoprotein: This is a blood test which can sometimes detect liver cancer. If it is elevated, a liver specialist needs to be consulted for further evaluation.

Is there any treatment?

The doctor may consider using an antiviral medicine. The antivirals are effective in about 30-50% of people who meet specific criteria. There are two main types of antivirals: interferon and Lamivudine. Interferon is given by injection for about four months and has significant side effects. Longer duration of therapy or re-treatment does not add any benefit. Lamivudine is a tablet with few side effects and is well tolerated over extended therapy.

What else can be done to improve the liver?

Carriers of HBV should eat a normal healthy diet. Unless the doctor suggests otherwise, however, alcohol should be stopped. People should avoid behavior associated with contracting other blood-borne viruses. (for example, they should practise safer sex and not share injecting equipment).

Do people with hepatitis B need to stay under medical supervision?

People who are carriers of hepatitis B but are thought to have very little or no damage to their liver (i.e. HB e antigen and HBV-DNA negative), have normal physical examination and normal ALT level, and should see their doctor annually for a checkup. There is a small chance of an ongoing liver damage in these people, more so if the hepatitis B infection occurred at birth.

People who are thought to have liver damage from hepatitis B should see their doctor regularly. Often, the doctor will recommend a physical examination and ALT level every 6 or 12 months. People who are hepatitis B e antigen positive are at risk of continued liver damage and should definitely see their doctor at least annually. Sometimes, regular ultrasound examinations and alpha-fetoprotein levels are recommended.

How can we stop the spread of hepatitis B?

The most important step in preventing the spread of hepatitis B is to arrange for all susceptible close contacts (i.e. family members, sexual contacts) to be vaccinated against Hepatitis B. People with hepatitis B should also follow the guidelines, given below:

- Do not donate blood, organs or any body tissue.
- Do not allow your blood to come in contact with anyone else's blood.

- Inform health care workers (including dentist) who are responsible for your care that you are hepatitis B positive.
- Your children should be vaccinated.
- Babies should be vaccinated from birth with a pediatric dose of hepatitis B vaccine. In addition, babies born to carrier mothers should receive a dose of hepatitis B immunoglobulin as soon as possible after birth.
- Spouse should be vaccinated. Until the course of injections is completed, and a follow-up blood test shows immunity, you should practice safe sex.
- Cover all cuts, etc., with adequate dressings. Do not allow other people to touch your wounds without their gloves on.
- Wipe away blood spills with concentrated household bleach.
- Do not share needles or any other injecting drug equipment.
- If your job involves potential for blood or other body fluid spread to other people (e.g. if you are a health care worker involved in invasive procedures). You should consider your responsibilities and discuss other career options with a counsellor or your doctor.

Hepatitis B vaccine

The hepatitis B vaccine is very safe and relatively inexpensive. It is also very effective and gives good immunity to 95 per cent or more of the population. Older people (i.e. over 40 years) are less likely to develop good immunity. The vaccine is usually given in three injections over six months. People at high risk of contracting hepatitis B need a blood test one month after the last dose to see whether or not they are immune.

Should everyone be vaccinated against hepatitis B?

It is recommended that the following broad categories of people should be vaccinated against hepatitis B (vaccination should be requested from general practitioner or local health unit):

- All babies and adolescents who have not had hepatitis B vaccination previously.

- **Most people do not die from it.**
- **There are cases where hepatitis B can cause liver damage (cirrhosis) that does not go away.**
- **It can also cause liver cancer, which may lead to death. Good medical care can reduce the risk of hepatitis B.**

What damage can hepatitis B do?

Babies who are infected with hepatitis B virus at birth, almost always go on to become long-term chronic carriers of the virus. Chronic carriers, who are infected early in life, have an overall approximately 25% chance of developing cirrhosis (shrinkage and scarring of the liver) or even liver cancer during their lifetime.

If a teenager or adult becomes infected with the hepatitis B virus, there is about a 50% chance that he/she will and develop jaundice (or turn yellow). This illness is called acute hepatitis. However, in the other 50% cases, there is no jaundice and the infection is silent (or “sub clinical”). Adults have a good chance (between 90-50%) of being able to get rid of the virus, or “clear” the virus from the body. individuals who have been infected and cleared of the virus are immune to the disease and do not develop long-term liver damage.

The approximately 5-10% of adults who are unable to clear the virus become long-term chronic carriers. Generally such people remain in good health for many years. However, there is can increased chance that chronic carriers of the hepatitis B virus (HBV) will develop cirrhosis or liver cancer over many years or decades.