



X-Plain™ *Hepatitis C*

Reference Summary

Hepatitis is an infection of the liver that is caused by a virus. The Hepatitis C virus is one of many viruses that cause hepatitis.

About 4 million people in the United States are infected with hepatitis at any one time.

This reference summary will help you understand what Hepatitis C is and how to treat or prevent it.

The Liver and Hepatitis

The liver is an important organ of the body. It is located in the upper right part of the abdomen.

The liver regulates the body's nutrition system. After we eat food, it is digested and absorbed, then taken through large blood vessels to the liver.

The liver processes absorbed substances such as fat, sugar, protein, and vitamins so the rest of the body can use them.

The liver gets rid of harmful substances called toxins before they have a chance to poison the body.

The liver also makes bile; a yellowish liquid that helps absorb the food we eat. Bile is made out of a substance called bilirubin, a yellowish chemical.

Bile is secreted directly into the first part of the intestines through the common bile duct. It can also be stored in the gallbladder before being secreted into the intestines. Bile is what makes our stools a brownish green color.

The liver also makes special chemicals that cause our blood to clot when we are injured.

Viruses are extremely small germs that can multiply only after invading a host. Cold sores and the flu are caused by viruses. Viruses can be seen only with very powerful microscopes.



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A virus called Hepatitis C can invade the human body through contaminated blood. This virus causes a liver infection called Hepatitis C.

Hepatitis C can lead to serious complications that affect the health of the liver and may even lead to death.

Symptoms

When a person becomes infected with the Hepatitis C virus, he or she may not notice any symptoms at first.

Symptoms of Hepatitis C are usually flu-like, including

- fever
- chills
- stomach pain
- nausea
- fatigue

Sometimes Hepatitis C symptoms may be severe right away, causing liver dysfunction. If this is the case, bilirubin may not be excreted in the bile, leading to high levels of bilirubin in the blood.

With high levels of bilirubin in the blood, the skin and the whites of the eyes become yellow, causing a condition called jaundice. High bilirubin levels in the blood can also cause severe itching.

High levels of bilirubin in the blood also cause urine to look dark yellow. Stools are chalk white because they are not colored by the bile.

Over 20 years or so, Hepatitis C may lead to the destruction of the liver, a condition called cirrhosis. With cirrhosis, the liver cannot clean the blood or meet the body's nutritional needs. This could lead to coma or death.

When people with Hepatitis C drink alcohol, their chances of getting cirrhosis become much greater.



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Patients with Hepatitis C have a higher risk of developing liver cancer.

Of every 100 persons infected with Hepatitis C about:

- 55-85 of persons might develop long-term infection
- 70 persons might develop chronic liver disease affecting to some extent the function of the liver.
- 5-20 persons might develop cirrhosis over a period of 20 to 30 years which severely impairs liver function and may necessitate a liver transplant
- 1-5 of persons might die from the consequences of long term infection (liver cancer or cirrhosis)

Hepatitis C is a leading indication for liver transplants.

Diagnosis

It is often difficult to diagnose Hepatitis C early because symptoms do not usually show up right away.

In order to find and treat Hepatitis C early, it is important to be VERY honest with the doctor when discussing drug use and sexual practices. If the doctor feels the need, he or she may do blood tests and discover Hepatitis C early enough to treat it.

Unfortunately, blood tests alone cannot show the exact extent of liver damage. A liver biopsy may be needed.

There are many different subtypes, technically known as genotypes of hepatitis C viruses. Blood test can help find the exact genotype. This is important because the treatment, its duration and its efficacy vary from genotype to genotype.

Treatment

Currently there are only 2 types of medications used to treat Hepatitis C.

1. Interferons
2. Ribavirin, called Rebetron®

Interferons are chemicals that boost the immune system and fight off the Hepatitis C virus. Ribavirin works directly against the Hepatitis C virus.

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Combination therapy with a weekly injection of interferon and daily oral ribavirin is the treatment of choice resulting in sustained response rates of 40%-80%.

Up to 50% for patients infected with the most common genotype found in the U.S. [genotype 1] and up to 80% for patients infected with genotypes 2 or 3.

Treatment with interferon alone is generally reserved for patients in whom ribavirin is contraindicated. Ribavirin, when used alone, does not work.

Combination therapy using interferon and ribavirin is now FDA approved for the use in children aged 3-17 years.

The combination of interferons and ribavirin has many possible side effects including

- headaches
- fever
- loss of appetite
- fatigue
- nausea and vomiting
- increased susceptibility to infections
- bleeding problems
- birth defects
- heart or kidney failure
- worsening of liver function
- rarely death

This is why it is very important to follow up with physician who will monitor any possible side effects and who would either adjust the dose of the medication or stop it if needed.

The treatment is administered over a period of months depending on the genotype.

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The treating physician will also to check and see if the treatment has been successful in keeping the virus in check.

Women who have Hepatitis C should check with their doctor before getting pregnant. Medications for Hepatitis C can cause birth defects and the mother could infect her baby.

It is thought that the infection of the baby comes at the time of delivery when the baby's blood and the mother's blood may mix. There are, as yet, no known ways of preventing this small risk of infection.

Risk Factors

Hepatitis C is transmitted through blood.

The following people have a higher risk of contracting Hepatitis C:

- patients who received blood transfusions or organ transplants before 1992, the year when tests were made available to check for it
- people who have more than one sexual partner
- people who share needles or razors
- babies born to women who have Hepatitis C

Prevention

Since treatment for Hepatitis C is not always effective, it is best to PREVENT it rather than to have to TREAT it!

Four of the BEST ways to prevent Hepatitis C are:

1. Practice safe sex by using condoms, and knowing your partner.
2. Do not share needles or other objects that may have come in contact with another person's blood, such as razors or toothbrushes.
3. Use gloves if you expect to be in contact with blood or other body fluids.
4. If you decide to get a tattoo or a body piercing, make sure that the instruments used are sterile.

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If you have Hepatitis C, there are certain precautions you should take to keep yourself and others as healthy as possible. The following pages include important guidelines for those who have Hepatitis C.

- Inform your sexual partners about your condition.
- Inform ALL your healthcare providers of your condition.
- Do not donate blood or blood products.
- Get Hepatitis A and B vaccinations.
- Do not drink alcohol.
- Check with your doctor before taking any new medications, including over-the-counter ones such as acetaminophen or Tylenol®. You may need a different dosage than indicated or not take them at all, depending on whether they could damage your liver.
- Follow directions from your doctors about medications and tell them about any side effects you may experience.
- Women with Hepatitis C should discuss pregnancy with a doctor BEFORE getting pregnant.



There is an extremely small chance of getting infected with hepatitis C from a sexual partner in a strictly monogamous relationship.

This risk is so small that condoms are not routinely advised to prevent hepatitis C infection.

However, sexual practices that can increase the risk of exposure to a partner's blood may increase that risk. Such practices include for example "rough" sex and anal sex.

Summary

Hepatitis C is a very serious disease. It can go undiagnosed for years because it might not produce any symptoms at first.

Unfortunately, treatment for Hepatitis C is not always effective.

It is best to avoid Hepatitis C infection by taking simple preventive measures!

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