

## Diagnosis of Hepatitis C

Diagnosis usually happens by accident. Since most cases have no symptoms, the Hepatitis C Virus (HCV) is usually discovered during a routine liver blood test taken before donating blood, an insurance physical, or just a checkup in your doctor's office. Once your doctor notes an elevation in your liver enzymes, he or she will usually request additional blood tests to confirm the abnormality and to determine the cause. A hepatitis profile is often requested which tests for hepatitis A, B, and C. If the test is positive for hepatitis C then additional blood tests are done to confirm active infection, the amount of virus present and type of hepatitis C (genotype). Since the extent of liver damage cannot be accurately determined by blood tests, often a needle biopsy of the liver is recommended.

## Management of Hepatitis C

Alcohol use in any form must be stopped. Studies are clear that hepatitis C patients who regularly ingest alcohol have more active hepatitis and are much more likely to rapidly progress to liver failure. In addition, drug treatment of HCV does not seem to work in alcohol users.

Being overweight also appears to increase the amount of damage the virus does to the liver, as fat deposited in the liver increases scarring caused by inflammation from the virus. Development of scar tissue can then lead to cirrhosis. If necessary, a weight loss program and staying within 10 percent of your ideal body weight is suggested.

## Drug Therapies for Hepatitis C

Currently the most effective drug therapy involves the use of two medications, Pegylated Interferon and Ribavirin, given in combination for a 24 to 48 week period. The duration of therapy, and projected treatment response, are variable and depend on multiple factors including the genotype of the hepatitis C infection.

Side effects of these medications are common and may preclude treatment in some patients. Interferon often makes patients feel as if they had a lingering case of the flu with fever, chills, headache, tiredness, loss of appetite, joint pain and muscle aches. These side effects may get better as the body gets used to the extra Interferon. Tylenol or Advil and rest are helpful.

Treatment requires frequent follow-up visits and blood tests to monitor the effectiveness of treatment and potential toxicity. Interferon is associated with bone marrow suppression that causes lowered levels of white blood cells (leukopenia) and platelets (thrombocytopenia). Occasionally the dose of the Interferon needs to be lowered to avoid risk of infections caused by leukopenia. Lowering the dose of Interferon usually results in improvement in the white blood cell count, but could reduce its effectiveness against the hepatitis C virus.

Alternatively, leukopenia can be treated with another injectable drug called Neupogen, which stimulates the bone marrow to produce more white blood cells. This strategy usually allows the patient to continue to receive the full prescribed dose of Interferon.

Ribavirin causes everyone to be anemic, which is a reduction in red blood cell mass. A side effect of anemia is fatigue. Some patients require a dose reduction or discontinuation of Ribavirin if the anemia becomes too severe. An alternative strategy to treat the anemia commonly employed is to prescribe Procrit, another injectable drug which stimulates the bone marrow to produce more red blood cells. Cardiac patients, and some women of child bearing age, may not be candidates for this drug and your doctor will help you decide if Ribavirin use is right for you.

Depression can occur or be aggravated by the use of Interferon. Be sure to tell your doctor if you have suffered from depression in the past or develop symptoms while on therapy.

New drugs called protease inhibitors have recently become available for the treatment of hepatitis C and are used in addition to Interferon and Ribavirin.

**Note:** *Patients with liver disease and/or who regularly use alcohol should never take more than four regular-strength Tylenol per day and should not take Tylenol on a daily basis due to risk of liver failure.*

## **Genotypes of Hepatitis C**

Genotype is the genetic make-up of the virus. The HCV can mutate or change its genetic makeup; and by varying its structure, it has evolved into six known genotypes. Determining the genotype helps the doctor determine the duration of therapy and projected response. Genotypes 1a and 1b are the most common in the U.S., accounting for more than 75 percent of all infections. For these genotypes, the hardest to treat, the recommended length of treatment is 48 weeks. For those with genotype one, the Sustained Virologic Response (SVR) for combination therapy with Pegylated Interferon and Ribavirin is 40 to 50 percent. Genotypes two and three are present in approximately 20 percent of patients. These genotypes are easier to treat and respond to a recommended treatment period of 24 weeks, with an anticipated SVR of 80 percent with combined Pegylated Interferon and Ribavirin. The addition of protease inhibitors to standard hepatitis C therapy has resulted in significant improvements in treatment response.

## **Liver Transplantation**

In severe cases if the liver is damaged beyond repair even with viral eradication, liver transplant is an option. In fact, Hepatitis C has now become the most common reason to perform liver transplant in the United States.

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