What is a Hepatitis C Genotype

June 5, 2019 By Connie M. Welch

The hepatitis C virus has different types or virus strains called genotypes. Each genotype has a unique genetic makeup. Some genotypes have subtypes.

Different Genotypes
There have been as many as eleven different genotypes identified through the world, but six are the most common and seen throughout certain counties.

In the U.S. 75% of patients with hepatitis C have genotype 1 (either subtypes 1a or 1b). 20 to 25% of patients in the U.S. have genotypes 2 and 3, with a small percentage of patients having genotypes 4, 5 or 6.

Globally these are the most common genotypes seen in these areas:

- United States: Genotype 1, 2 and 3, with genotype 1 being the most prevalent in the U.S. Small percentage of genotypes 4, 5, 6.
- Universally seen in all countries: Genotypes 1, 2, and 3.
- Northern Africa: Genotype 4
- South Africa: Genotype 5
- Asia: Genotype 6

Typically, people are infected with one genotype, but it is possible to become infected with more than one genotype at the same time. It is also possible to become infected with more than one type of hepatitis at a time. Example, there is hepatitis A, B, C, D, and E.

Genotype Testing
To determine what type of genotype (virus strain) a patient has is done through a blood test, with an HCV RNA PCR test which looks at nucleotides, the genetic makeup of the virus and measures the amount of hepatitis C virus in the blood.

How does Genotypes Affect Hepatitis C?
Genotypes do not affect the severity of the hepatitis C virus. They merely show the genetic makeup of each virus strain.

How does Genotypes Affect Hepatitis C Treatment?
Genotypes, however, do affect what type of hepatitis C treatment is best suited for each patient. Each hepatitis C treatment has been designed to work on certain virus strains (genotypes).

Recently over the last few years, a few new treatments for hepatitis C has been developed called pan-genotypic, meaning they have been developed to work on all genotypes.

Currently, in the U.S. there are three pan-genotypic treatments, Epclusa (sofosbuvir/velpatasvir) by Gilead Sciences, Vosevi (sofosbuvir/velpatasvir/voxilaprevir) by Gilead Sciences and Mavyret (glecaprevir/pibrentasvir) by AbbVie.

Hepatitis C Treatment Considerations
To determine which treatment is best suited for each patient, tests and considerations are made for the patient's genotype, viral load, liver condition, past treatment history, if any co-infections (i.e. hepatitis B, or HIV, etc.…), other medical conditions, and medications the patient takes.

Do you know what genotype of hepatitis C you have?

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