Hepatitis C virus genotypes

Info Sheet

Viruses are microscopic in size and are so small that around 30 billion of them would fit on a full stop. Although it is much easier to speak of the hepatitis C virus as if it were a single organism, in fact it is a group of viruses similar enough to be called hepatitis C, yet different enough to be classified into subgroups.

Subgroups of the hepatitis C virus are called genotypes. Identifying which genotype a person has is determined by a blood test called a PCR (polymerase chain reaction) test. The PCR test determines both the genotype and the amount of virus present in the blood (viral load).

There is currently no vaccination available that protects against hepatitis C infection. Evidence indicates that it is possible to be infected with multiple hepatitis C genotypes. Having one genotype does not give immunity from contracting another genotype.

Current research indicates that there appears to be no relationship between genotype and severity of liver disease and symptoms. It does not appear that some genotypes cause more or less liver disease than others.

Genotypes

Several identifiable 'families' or genotypes of the hepatitis C virus have been observed around the world, each differing slightly from the other in their RNA sequencing (genetic makeup). RNA sequencing is the most commonly used classification system and lists these 'families' as HCV genotype 1, 2, 3 etc.

Subtypes

Within each genotype, differences between viruses exist. These variations are too small to be seen as a new genotype, but significant enough to be measurable, thus making the term sub-type applicable. These lesser classifications are described as HCV subtype 1a or 1b, 2a or 2b etc.

Australian patterns

It is estimated that of the 210,000 Australians that have chronic hepatitis C, approximately 50% have genotype 1; around 35% have genotype 3; a further 7% have genotype 2, while the rest are distributed among the remaining genotypes.

Genotype and treatment

People infected with hepatitis C genotypes 2 and 3 have a higher response rate to the current treatment of pegylated interferon and ribavirin (combination therapy) and will be more likely to clear the virus. Because the treatment is more effective, people with these genotypes usually require only 20 weeks treatment, and have approximately 80% success rate. Whereas those with genotypes 1 and 4 usually receive 48 weeks treatment and have approximately 50% success rate.

Treatment is considered successful when the virus cannot be detected in the blood immediately after therapy is completed, and for six months afterwards. This is called a sustained virological response.

In December 2008, re-treatment for hepatitis C became available through the Pharmaceutical Benefits Scheme (PBS). Funded re-treatment is now available to people for whom treatment has failed in the past. The success rate of re-treatment is variable depending on why treatment may have failed in the first attempt. Discuss your suitability and possible success rate with your specialist.

For more information about re-treatment call the Hep C Infoline or see your gastroenterology or liver specialist.

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Useful Contacts

Hepatitis C Victoria

Hep C Infoline 1800 703 003

Email: info@hepcvic.org.au

Web: www.hepcvic.org.au

Useful publications

Impact

Hepatitis C: Treat it, beat it

Both these publications are available from Hepatitis C Victoria

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