



Steatosis

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Forward

Steatosis, also known as fatty infiltrates in the liver or Fatty Liver, is a condition characterized by the accumulation of fat in the liver, and it is commonly seen in people infected with the hepatitis C virus (HCV). It is estimated that about 55% (range: 40-86%) of HCV positive individuals have steatosis, which is two to three times the prevalence seen in the general population. Studies have found that the combination of hepatitis C and steatosis increases the risk of HCV disease progression and may contribute to the development of liver cancer (hepatocellular carcinoma, or HCC).

Metabolic Factors

The exact mechanism by which HCV increases the risk of steatosis in the liver is not well-understood. Contributing factors that have been found to increase the incidence of steatosis in the general population include:

- Type II diabetes (diabetes mellitus) – a disease in which the body does not produce or effectively use insulin
- Hyperlipidemia – elevation of lipids (fats) in the bloodstream. These include cholesterol, cholesterol esters (compounds), phospholipids, and triglycerides
- Heavy alcohol consumption
- High body mass index – the body mass index (BMI) formula assesses body weight relative to height

Most experts believe that there is an additional viral factor that increases the likelihood of HCV patients developing steatosis, but exactly what this is remains unclear.

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HCSP FACT SHEET

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The information in this fact sheet is designed to help you understand and manage HCV and is not intended as medical advice. All persons with HCV should consult a medical practitioner for diagnosis and treatment of HCV.

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Genotype 3

It is clear that there is a direct viral mechanism involved in the development of steatosis in people infected with HCV genotype 3, even though this mechanism has not yet been determined. It has been found that about 74% of people with HCV Genotype 3 have some degree of steatosis compared to 50% of people with HCV genotype non-3. Furthermore, the severity of steatosis is also higher in those with HCV genotype 3 compared to people with HCV nongenotype 3 (29.6% vs. 5.5%). Interestingly, patients with genotype 3 who achieve a sustained virological response (SVR, continued undetectable HCV viral load 12 weeks after the completion of therapy) to HCV treatment have a marked decrease and sometimes a complete resolution of steatosis, regardless of any additional co-factors. This clearly indicates that there is a relationship between steatosis development and genotype 3 HCV. This is in stark contrast to patients with HCV genotypes other than 3, who show little or no improvement in the level of steatosis even after achieving an SVR.

Non-3 Genotypes

In patients with HCV genotypes other than 3, cofactors such as high BMI, heavy alcohol intake, elevated blood lipids, glucose intolerance, and diabetes promote the development of steatosis. Other genotypes do not have as clear an association with steatosis as genotype 3. However, since more patients with non-3 genotypes develop steatosis than patients without HCV, experts believe that there is a synergy between steatosis, HCV of any genotype, and the other cofactors listed above.

HCV Disease Progression

Steatosis appears to increase the rate of HCV disease progression. Recent studies have shown that higher grades of steatosis correlates with higher grades of fibrosis, and with more rapid development of fibrosis and cirrhosis.

Liver Cancer

It has been documented that steatosis is an independent risk factor for the development of liver cancer. Steatosis, cirrhosis, and increasing age are reported as independent and significant risk factors for liver cancer.

Diagnosing Steatosis

Steatosis can be diagnosed in a number of ways. There are blood tests that will show that liver enzymes are elevated or higher than normal. Another test that can be used to diagnosis steatosis is an ultrasound that uses soundwaves to get a picture of your liver. Still, another test is the Fibroscan that sends soundwaves through the liver that can measure the fat in the liver as well will show the amount of scarring if any.

Treatment for Steatosis

There are a lot of drugs in development to treat steatosis. At this time there is not a medication that can treat or cure steatosis. However, there have been studies that have shown that a healthy diet and an exercise program can reduce steatosis. Additionally, controlling alcohol intake, diabetes and other metabolic disorders can go a long way to help to control steatosis. The best advice is to always talk with your medical provider to test for and diagnosis steatosis.

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It is clear that steatosis plays an important role in HCV disease progression. If you are concerned about steatosis, talk to your medical provider about a diet and exercise program that will help to reduce steatosis. This is an important piece of information for medical providers and patients to know about for the management of hepatitis C disease progression. In addition to their direct effect on steatosis, incorporating exercise and a healthy diet, along with other important lifestyle changes, such as reducing or eliminating alcohol and avoiding substances that harm the liver, can improve the health of the liver and general body health, which will ultimately lead to a stronger immune system to help fight hepatitis C.

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GET CURED

HCV Disease Progression

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- **Mayo Clinic**
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