# Non-Alcoholic Steatohepatitis; "Fatty Liver"

http://www.gastro.com/html/liverdisease/nonalchoholic\_steatohepatitis.shtml

#### 1) What is Nonalcoholic Steatohepatitis?

Nonalcoholic steatohepatitis (NASH) is described as inflammation of the liver associated with the accumulation of fat in the liver. It is not connected with other causes of chronic liver disease, including hepatitis B and C viruses, autoimmune disorders, alcohol, drug toxicity and the accumulation of copper (Wilson's disease) or iron (hemochromatosis).

It differs from the simple accumulation of fat in the liver (called fatty liver or hepatic steatosis) in that the progression of the disease causes damage to the liver cells while fatty liver does not.

Since it was first recognized as a specific entity in 1980, NASH has also been called fatty liver hepatitis, nonalcoholic Laennec's, steatonecrosis and diabetic hepatitis.

## 2) What Causes Nonalcoholic Steatohepatitis?

There is no known specific cause of NASH. In the past, the typical NASH patient was described as a middle aged, obese woman with excess sugar in the blood which may have been caused by diabetes mellitus. In addition the patient may have had excess fat (very low density lipoproteins, or lipids, a form of cholesterol) in the blood, and may have had other medical conditions, such as coronary artery disease, thyroid disease or hypertension (high blood pressure).

Recently it has been reported that patients with NASH do not always fit this description. One study included men as well as women who were not overweight, did not suffer from diabetes mellitus and did not have excess lipids in their blood. Another group diagnosed with NASH were children between nine and 16 years old. Most of the children were overweight, but only two of the 30 had diabetes mellitus. Also uncertain is whether the accumulation of fat in the liver is the cause of the inflammation or whether there is another reason for the hepatitis. Researchers believe the fat accumulates because the liver is unable to change it into a form that can be eliminated.

### 3) How Is Nonalcoholic Steatohepatitis Diagnosed?

Many NASH patients are unaware of their condition because they do not exhibit any symptoms. In most cases NASH results in a slight increase in liver enzyme tests, as do other forms of liver disease. In diagnosing NASH, the physician will first eliminate the other possible causes of chronic liver disease.

The diagnosis must be confirmed by liver biopsy, a procedure where the physician inserts a needle into the liver and extracts a sample of tissue which is examined under a microscope.

### 4) What Is The Natural History of NASH?

Previously, physicians believed that NASH was a benign disorder which did not progress or was slow in developing. Recent studies and the experience of physicians indicate that NASH can result in the development of fibrous tissue in the liver for up to 40 percent of patients or scarring of the liver (cirrhosis) in 5-10 percent of patients. It is not certain why some NASH patients will progress to this serious form of chronic liver disease while others will not. Studies report that the progression to fibrosis or cirrhosis for NASH patients is variable but can occasionally occur in less than 10 years. Many patients with NASH will show an increase of certain iron proteins (ferritin) in their blood, but whether this relates to any injury to their liver is unknown.

#### 5) How Is NASH Treated?

Presently, there is no specific treatment for NASH that is universally agreed upon. However, for individuals who are obese, diabetic and with high lipids (fats) in the blood, they are recommended to lose weight and to control their diabetes and their elevated lipids. Usually a low fat, low calorie diet is recommended along with insulin or medications to lower blood sugar. For patients with NASH who are not overweight and not diabetic, a low fat diet is often recommended.

Research is needed to understand what causes NASH so more effective therapies can be developed.

The American Liver Foundation is the only national nonSprofit voluntary health organization dedicated to preventing, treating, and curing liver diseases through research and education For further information contact:

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