



Causes of Non-Alcoholic Fatty Liver Disease and its Diagnosis

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Description

Non-Alcoholic Fatty Liver Disease (NAFLD) is a prevalent and increasingly recognized liver condition characterized by the accumulation of fat in the liver of individuals who consume little or no alcohol. NAFLD encompasses a spectrum of liver diseases, ranging from regular steatosis (fatty liver) to Non-Alcoholic Steato-Hepatitis (NASH) and it can progress to advanced liver fibrosis, cirrhosis, and hepatocellular carcinoma.

Causes and risk factors

The exact cause of NAFLD can't be entirely comprehended, but it is assumed to result from a combination of genetic, metabolic, and environmental factors. Risk factors for NAFLD include:

Obesity: Obesity, especially excess abdominal fat, it is strongly associated with the development of NAFLD. Insulin resistance and inflammation contribute to fat accumulation in the liver.

Insulin resistance and metabolic syndrome: Insulin resistance is a condition in which the body's cells become less responsive to insulin; it is commonly observed in individuals with NAFLD. Metabolic syndrome, characterized by obesity, high blood pressure, high blood sugar, and abnormal lipid levels, further increases the risk of NAFLD.

Type-2 diabetes: People with type 2 diabetes are more likely to develop NAFLD due to the associated insulin resistance and metabolic disturbances.

High cholesterol and triglyceride levels: Elevated levels of cholesterol and triglycerides in the blood are risk factors for NAFLD.

Sedentary lifestyle: Lack of physical activity and a sedentary lifestyle contribute to the development and progression of NAFLD.

Certain medical conditions: Other conditions, such as Polycystic Ovary Syndrome (PCOS), sleep apnea, and hypothyroidism, are associated with an increased risk of NAFLD.

Medications: Some medications, including corticosteroids, tamoxifen, amiodarone, and certain antiviral drugs, have been associated to the development of NAFLD.

Symptoms, diagnosis, and complications

In its early stages, NAFLD can result in noticeable symptoms. However, as the disease progresses, individuals may experience fatigue, abdominal discomfort, enlarged liver, or elevated liver enzymes detected through blood tests. In advanced stages, symptoms of cirrhosis or liver failure may manifest, such as jaundice, abdominal swelling, and confusion.

Diagnosing NAFLD typically involves a combination of:

Medical history: Evaluation of risk factors, medical history, and family history of liver disease.

Physical examination: Assessment of signs of liver disease, including enlarged liver or spleen.

Blood tests: Liver function tests, lipid profile, blood sugar, and other tests to evaluate liver health and other diseases of the liver can be determined immediately.

Imaging studies: Ultrasound, Computed Tomography (CT) scan, or Magnetic Resonance Imaging (MRI) can detect fatty liver and determine the severity of liver damage.

Liver biopsy: In some cases, a liver biopsy may be recommended to confirm the diagnosis and evaluate the degree of liver inflammation, fibrosis, or cirrhosis.

Treatment and Management Conditions of Non-Alcoholic Fatty Liver Disease

The primary objective in managing NAFLD is to prevent disease progression, reduce liver fat accumulation, and minimize the risk of complications. Treatment and management techniques include:

Lifestyle modifications

Weight loss: maintaining a healthy weight through a combination of calorie reduction, regular physical activity, and exercise can help to improve liver health and reduce fat accumulation.

Regular exercise: Engaging in regular aerobic exercise and strength training can help to improve insulin sensitivity, reduce liver fat, and increase overall health.

Management of underlying conditions

Management of diabetes and metabolic syndrome: Effective control of blood sugar levels and management of metabolic syndrome components, such as high blood pressure and dyslipidemia, are important in managing NAFLD.

Medication review: Careful evaluation and adjustment of medications that may contribute to liver fat accumulation, if feasible.

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