

Non-Alcoholic Fatty Liver Disease in Type 2 Diabetes

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Non-alcoholic fatty liver disease (NAFLD) is a common disorder and its prevalence is expected to increase due to the rising incidence of type 2 diabetes mellitus (T2DM) and obesity. Insulin resistance and oxidative stress play an important role in NAFLD development and progression. NAFLD includes a wide spectrum of liver damage, ranging from simple steatosis to steatohepatitis and advanced fibrosis. Nonalcoholic steatohepatitis (NASH), a histological subtype of NAFLD characterized by hepatocyte injury and inflammation, is present in approximately 10% of patients with T2DM and is associated with an increased risk for the development of cirrhosis and liver-related death. Both T2DM and NAFLD are associated with adverse outcomes of the other; T2DM is a risk factor for progressive liver disease and liver-related death in patients with NAFLD, whereas NAFLD may be a marker of cardiovascular risk and mortality in individuals with T2DM. Noninvasive, simple, reproducible, and reliable biomarkers are needed to develop novel therapies for patients with NASH. Current treatment strategies aim to improve insulin resistance via weight loss and exercise, improve insulin sensitivity by the use of insulin-sensitizing agents (for example, pioglitazone) and reduce oxidative stress by the use of antioxidants, such as vitamin E. Pioglitazone and vitamin E supplementation show some promise in improving liver histology in patients with NASH. Bariatric surgery is gaining momentum for the treatment of obesity associated with co morbidities, such as T2DM and NASH, with long-term reports of reduction in overall mortality.

Almost all researchers agree that prevention could be the key strategy for controlling the current epidemic of obesity. Prevention may include primary prevention of overweight or obesity, secondary prevention or prevention of weight regains following weight loss, and avoidance of more weight increase in obese persons unable to lose weight. Until now, most approaches have focused on changing the behavior of individuals in diet and exercise. Prevention may be achieved through a variety of interventions like targeting built environment, physical activity, and diet. The increased risk of chronic diseases requires effective strategies to promote health, facilitating the adoption of proper life styles from childhood

Nonalcoholic fatty liver disease is a term used to describe the accumulation of fat in the liver of people who drink little or no alcohol. Nonalcoholic fatty liver disease is common and, for most people, causes no signs and symptoms and no complications. But in some people with nonalcoholic fatty liver disease, the fat that accumulates can cause inflammation and scarring in the liver. This more serious form of nonalcoholic fatty liver disease is sometimes called nonalcoholic steatohepatitis. At its most severe, nonalcoholic fatty liver disease can progress to liver failure.

Non-alcoholic fatty liver disease (NAFLD) is a very common disorder and refers to a group of conditions where there is accumulation of excess fat in the liver of people who drink little or no alcohol. The most common form of NAFLD is a non serious condition called fatty liver. In fatty liver, fat accumulates in the liver cells. Although having fat in the liver is not normal, by itself it probably does not damage the liver. A small group of people with NAFLD may have a more serious condition named non-alcoholic steatohepatitis (NASH). In NASH, fat accumulation is associated with liver cell inflammation and different degrees of scarring. NASH is a potentially serious condition that may lead to severe liver scarring and cirrhosis. Cirrhosis occurs when the liver sustains substantial damage, and the liver cells are gradually replaced by scar tissue (see figure), which results in the inability of the liver to work properly. Some patients who develop cirrhosis may eventually require a liver transplant (surgery to remove the damaged liver and replace it with a “new” liver).

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