Are Lean People With NAFLD At Higher Risk for Heart Disease?

Study finds people with a normal BMI were at greater risk for cardiovascular disease but lower risk for cirrhosis and diabetes.

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People with non-alcoholic fatty liver disease (NAFLD) and a normal body mass index (BMI) have a greater likelihood of experiencing heart disease compared with those who have overweight or obesity, but they were at lower risk for other related conditions, according to study results presented at Digestive Disease Week 2022.

Arising from the accumulation of fat in the liver, NAFLD and its more severe form, non-alcoholic steatohepatitis (NASH), are responsible for a growing proportion of advanced liver disease worldwide. Fatty liver disease is often accompanied by abdominal obesity, hypertension, elevated blood sugar and abnormal blood fat levels, collectively known as metabolic syndrome. As a result of inflammation, NAFLD can lead to the buildup of scar tissue (fibrosis), cirrhosis and even liver cancer. With no effective approved medical therapies, disease management is dependent on lifestyle changes such as weight loss and exercise.

While fatty liver disease is more common among people with overweight or obesity, a large proportion of people with NAFLD have a normal weight. Given the well-established link between overweight and cardiovascular problems, many experts have assumed that lean people with NAFLD would be less like to develop heart disease, but this has not been studied extensively. However, an earlier study found that lean individuals with fatty liver disease may be more likely to experience comorbidities.

Karn Wijarnpreecha, MD, MPH, of the University of Michigan, and colleagues carried out a retrospective study of 10,000 people with NAFLD. The participants were diagnosed at the University of Michigan Hospital between 2012 and 2021. The researchers assessed the occurrence of liver cirrhosis, cardiovascular and metabolic diseases and chronic kidney disease in people across different BMI groups.

The team found that lean individuals with NAFLD were more likely to have peripheral vascular disease, cerebrovascular disease and cardiovascular disease overall. Moreover, this association was seen despite a lower probability of developing cirrhosis, diabetes, high cholesterol or high blood pressure.

“Our team had expected to see that those with a normal BMI would have a lower prevalence of any metabolic or cardiovascular conditions, so we were very surprised to find this link to cardiovascular disease,” Wijarnpreecha said in a DDW press release. “In further analysis, we found that lean patients with NAFLD also had a significantly higher prevalence of cardiovascular disease independent of age, sex, race, smoking status, diabetes, hypertension and dyslipidemia.”

In the future, the researchers will conduct longitudinal studies to explore whether lean people have a greater risk of developing heart disease due to NAFLD. “Too often, we overlook NAFLD patients with a normal BMI because we assume their risk for more serious conditions is lower than those who are overweight,” said Wijarnpreecha. “But this way of thinking may be putting these patients at risk.”

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