People Hospitalized With NAFLD Have Higher Death Rate, Independent of Heart Disease Risk

All-cause mortality rates were highest among those with NAFLD-related cirrhosis.

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Advanced non-alcoholic fatty liver disease (NAFLD) is linked with an increasing risk for cardiovascular disease and death. But hospitalized people with NAFLD, irrespective of cirrhosis status and cardiovascular risk, have a higher mortality rate, according to a study published in PLOS ONE.

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. As a result of inflammation, NAFLD can lead to the buildup of scar tissue (fibrosis), cirrhosis (advanced scarring) and even liver cancer. With no effective approved medical therapies, disease management is dependent on lifestyle changes, such as weight loss and exercise.

NAFLD/NASH is increasingly recognized as a manifestation of metabolic syndrome—characterized by abdominal obesity, high blood pressure, elevated blood sugar and abnormal cholesterol or triglyceride levels—which raises the risk of cardiovascular disease, the most common cause of death among individuals with NAFLD.

In a retrospective study, Jake Mann, MD, of the University of Cambridge in the United Kingdom, and colleagues explored the impact of cardiovascular disease and death among people with NAFLD.

The researchers followed individuals who were admitted to seven U.K. hospitals with a NAFLD diagnosis, zeroing in on 1,802 individuals with NAFLD, of whom 1,091 had NAFLD without cirrhosis and 711 had NAFLD and cirrhosis. This group was matched with 24,737 hospitalized people without NAFLD.

The team analyzed all-cause mortality for these groups over a period of 14 years after their discharge from the hospital. These participants were also evaluated for many heart-related comorbidities and risk factors, such as congestive heart failure, chronic kidney disease, myocardial infarction, ischaemic stroke and others. Liver-related events, including hepatocellular carcinoma

(the most common type of liver cancer), and liver failure were also recorded.

The team found that heart disease burden and mortality progressively increased with worsening NAFLD. In the case of congestive heart failure, the mortality rates were 3.5%, 4.2% and 6.6% for those without NAFLD, those with NAFLD without cirrhosis and those with NAFLD-related cirrhosis, respectively. In the case of atrial fibrillation, the mortality rates were 4.7%, 5.9% and 12.1%, respectively.

“Our analysis has illustrated that a substantial proportion of participants with cirrhosis have risk factors for vascular events,” wrote the researchers.

When it came to metabolic risk factors, people with NAFLD without cirrhosis had a higher prevalence of type 2 diabetes, obesity and hypertension than people without NAFLD. Within the NAFLD group, 35% of those with cirrhosis had type 2 diabetes compared with 22% of those without cirrhosis. On the other hand, those with cirrhosis had a lower likelihood of having abnormal lipid levels compared with those without cirrhosis (6.5% versus 13.3%). People with cirrhosis were also more likely to have myocardial infarction, chronic kidney disease and any type of cancer compared with the NAFLD without cirrhosis group.

After 14 years, the all-cause mortality rates were 14.7% for those without NAFLD, 13.7% for those with NAFLD without cirrhosis and 40.5% for those with NAFLD and cirrhosis. After adjusting for age, sex and race/ethnicity, all-cause mortality was higher among NAFLD patients with or without cirrhosis compared with those without NAFLD.

After adjusting for heart-related risk factors, all-cause mortality was still higher in the NAFLD group compared with those without NAFLD. After adjusting for liver-related events, mortality rates were similar between people with NAFLD without cirrhosis and those without NAFLD. But those with NAFLD-related cirrhosis continued to have higher mortality rates.

“These results contribute to our understanding of comorbidity, mortality and liver decompensation in patients hospitalized with NAFLD spectrum disease and demonstrates there is higher mortality independent of known cardiovascular risk factors,” wrote the researchers.

Click here to read the study in PLOS ONE.

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