Newer Fatty Liver Disease Definition Points to Higher Mortality Risk

The MAFLD criteria for diagnosis was linked to higher all-cause and cardiovascular mortality.

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Using data, including associated mortality, from participants in a national survey, researchers found that people who met the definition of metabolic-dysfunction associated fatty liver disease (MAFLD) had worse mortality than those who met the traditional definition of non-alcoholic fatty liver disease (NAFLD). These findings were published in the Journal of Hepatology.

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. Fatty liver disease is often accompanied by abdominal obesity, hypertension, elevated blood sugar and abnormal blood fat levels, collectively known as metabolic syndome. With no effective approved medical therapies, disease management is dependent on lifestyle changes, such as weight loss and exercise.

Previously, researchers have proposed broadening the definition of NAFLD to better reflect its features and renaming the condition metabolic-associated fatty liver disease. But altering the criteria may affect known mortality rates. Donghee Kim, MD, PhD, of Stanford University School of Medicine in California, and colleagues explored differences in mortality rates associated with MAFLD and NAFLD in an adult population in the United States.

The researchers short-listed data from the Third National Health and Nutrition Examination Survey (1988 to 1994) on 7,761 individuals along with their mortality information through 2015. The presence of liver fat, detected by an ultrasound scan, was used to diagnose NAFLD in the absence of excessive alcohol consumption and viral hepatitis. MAFLD status was determined on the basis of specific criteria put forth by an expert panel, including the presence of liver fat plus at least one of three other criteria: overweight or obesity, diabetes and at least two metabolic abnormalities.

Across the study population, some 30% had NAFLD and 26% had MAFLD. Around 24% met the criteria for both conditions. During follow-up, there were 2,234 deaths, including 574 from cardiovascular causes and 556 from cancer.

Over 23 years, the researchers noted that people with MAFLD had a 17% higher risk for death

from all causes. For people with MAFLD all-cause mortality was 2.2 times that of those without MAFLD. Across multiple models, MAFLD was linked to higher all-cause mortality. On the other hand, NAFLD was not associated with all-cause mortality after adjusting for metabolic risk factors. People with MAFLD and severe fibrosis had higher all-cause mortality than those with NAFLD and advanced fibrosis.

MAFLD was also linked to a higher risk of cardiovascular death. People with MAFLD experienced 24% higher cardiovascular mortality than those without, but this association weakened after adjusting for metabolic factors. No significant link was found between NAFLD alone and cardiovascular mortality.

People with MAFLD in the absence of NAFLD had a 1.7 times higher risk for all-cause mortality. But a similar risk was not seen among people with NAFLD but not MAFLD or among those with simple steatosis (liver fat accumulation). People who met the criteria for both NAFLD and MAFLD had a 13% higher risk for mortality from all causes.

“Our findings provide further support to the idea that nonalcoholic fatty liver disease (NAFLD) is a part of a broader multisystem disease that also includes obesity, diabetes, high blood pressure and high cholesterol,” wrote the researchers. “Therefore, redefining NAFLD as metabolic dysfunction-associated fatty liver disease (MAFLD) may provide a better understanding of predictors that may increase the risk of death.”

Click here to read the study abstract in the Journal of Hepatology.
