Moderate Exercise May Reduce Liver Injury in People With MASH

Improvements in biomarkers of liver health were seen even in those with little weight loss.

April 18, 2024 By Sukanya Charuchandra

Moderate-intensity exercise led to lower levels of biomarkers indicative of liver fibrosis and inflammation in people with metabolic dysfunction-associated steatohepatitis (MASH), according to study findings published in Liver International.

MASH, the new name for non-alcoholic steatohepatitis (NASH), and its less severe form, metabolic dysfunction-associated steatotic liver disease (MASLD; formerly non-alcoholic fatty liver disease, or NAFLD), are responsible for a growing proportion of advanced liver disease worldwide. As the new terminology suggests, they are often associated with obesity, type 2 diabetes and other metabolic abnormalities. Over time, the buildup of fat in the liver can lead to liver fibrosis, cirrhosis and even liver cancer.

Until the recent approval of Rezdiffra (resmetirom), there were no approved medical therapies for fatty liver disease, so management has relied on lifestyle changes such as weight loss and exercise. However, the impact of exercise in the absence of significant weight loss is unclear.

Jonathan Stine, MD, of the Penn State Health-Milton S. Hershey Medical Center, and colleagues explored the potential links between exercise and liver health by analyzing serum biomarkers of fibrosis and inflammation.

In the NASHFit trial, people with MASH were randomly assigned to a moderate-intensity aerobic exercise training intervention or standard clinical care for 20 weeks. All participants also received dietary counseling. Over the course of the study, changes in serum biomarkers were analyzed for both groups.

Levels of alanine aminotransferase (ALT), a measure of liver inflammation, decreased by at least 17 IU/L in 53% of participants assigned to the exercise intervention compared with only 13% of those in the standard care group. People in the exercise group experienced an average ALT reduction of 24% compared to 10% in the standard care group. Improvement in ALT levels was associated with at least a 30% relative reduction in liver fat as measured via magnetic resonance imaging.

The researchers also observed improvements in levels of CK18, another marker of liver injury, in the exercise group. These improvements were seen in people with and without substantial weight loss.

“Exercise training improves multiple serum biomarkers of liver fibroinflammation at clinically significant thresholds of response without body weight loss,” wrote the researchers. “This study provides further evidence that exercise training should be viewed as a weight-neutral intervention for which response to intervention can be readily monitored with widely available non-invasive biomarkers that can be applied at the population level.”

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