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Diabetes More Than Doubles Risk of Advanced Liver Disease

Obesity increased the risk of liver disease to a smaller extent, according to a meta-analysis study.

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Type 2 diabetes increases the risk of severe liver disease in the context of non-alcoholic fatty liver disease (NAFLD), according to a systematic review and meta-analysis study published in PLOS Medicine.

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.

While many people have risk factors for NAFLD , most do not develop advanced liver disease. So focusing on those at high risk of progressing to advanced stages of the disease is necessary to help with prevention and care. In the absence of effective approved medical therapies, disease management is dependent on lifestyle changes, such as weight loss and exercise.

“In order to develop community-based strategies for earlier, targeted detection of liver disease, a good understanding is needed of which metabolic risk factors best predict severe NAFLD outcomes and advanced fibrosis,” wrote study authors Helen Jarvis, PhD of Newcastle University in the United Kingdom, and colleagues.

The researchers set out to identify the metabolic risk factors most commonly linked to advanced liver disease. They carried out a systematic review and meta-analysis of population-based cohort studies from the MEDLINE, EMBASE, Cochrane Library, ClinicalTrials.gov, Conference Proceedings Citation Index–Science and OpenGrey databases up until January 9, 2020.

The team analyzed studies that described outcomes of advanced liver disease, including NASH, cirrhosis or liver-related death, in people with metabolic risk factors compared with people with no such risk factors. These metabolic risk factors included type 2 diabetes, obesity, abnormal lipid levels, high blood pressure and metabolic syndrome.

Following inclusion and exclusion criteria, the systematic review included 22 observational studies

with data from 16 cohorts. Data on the association between diabetes and liver disease was extracted from 12 studies that followed 22.8 million people who experienced 72,792 liver events over a median period of 10 years. When analyzing obesity as a risk factor, the team analyzed 14 studies with data on 19.3 million people who experienced 49,541 liver events over a median period of 13.8 years.

The team found that type 2 diabetes was linked to a more than twofold jump in the likelihood of experiencing advanced liver disease. This difference was statistically significant, meaning it was likely not attributable to chance. Obesity was associated with liver disease to a lesser extent than diabetes. Lipid abnormalities and hypertension were both independently linked to liver disease, though the number of studies that looked at these factors was small.

“These findings mean that when health professionals are trying to find people at high risk of significant metabolic liver disease, they should focus on those who already have diabetes,” concluded the researchers.

Click here to read the study in PLOS Medicine.

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