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Hepatic steatosis and NAFLD are common and associated with cardiometabolic risk in a primary prevention cohort of people with HIV

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Background

Hepatic steatosis, a build-up of fat in the liver, can be more common among people with HIV (PWH). Non-alcoholic fatty liver disease (NAFLD, now also called Metabolic-Associated Steatotic Liver Disease, or MASLD) is a type of hepatic steatosis and is strongly associated with cardiovascular disease (CVD). It is not fully understood which factors contribute to NAFLD among PWH. One way to better understand contributors to NAFLD is to measure the amount of fat in the liver is using computed tomography (CT) scans and to look for relationships with traditional metabolic risk factors and HIV-associated risk factors.

Participants in this study were enrolled in the Mechanistic Substudy of REPRIEVE. The REPRIEVE Trial is a global clinical research study that showed that treatment with a statin (cholesterol-lowering medication) reduces heart disease events among PWH with low-to-moderate traditional CVD risk. U.S. REPRIEVE participants in the substudy underwent all REPRIEVE trial procedures, as well as CT scans of the blood vessels surrounding the heart (also capturing images of the liver and spleen), and blood tests measuring blood levels of inflammation markers.

Goals of the Study

This study aimed to measure hepatic steatosis in REPRIEVE substudy participants and to study the relationships between hepatic steatosis and traditional and HIV-specific risk factors.

- **The participants:**
  - 687 REPRIEVE participants
    - Median age: 51
    - Body mass index: 27 kg/m^2
    - 119 (17%) identify as female
    - 216 (33%) had high waist circumference
- **The findings:**
  - Among all study participants, 22% had hepatic steatosis, and among study participants who did not have significant alcohol intake and viral hepatitis, 21% had NAFLD.
  - Hepatic steatosis/NAFLD was more common in participants who were male, of older age, non-Black race, and/or with higher BMI and waist circumference. There was also an association between hepatic steatosis/NAFLD and having a higher ASCVD risk score, more insulin resistance, and higher levels of some blood inflammation markers.
  - Having a history of an AIDS-defining illness was more common for participants with hepatic steatosis/NAFLD.

In Summary: Hepatic steatosis and NAFLD are common among even among PWH with low-to-moderate traditional CVD risk. There were relationships between hepatic steatosis/NAFLD and certain health and inflammation measures, but there was not a relationship with current HIV- or ART-related factors.

REPRIEVE Trial Website: reprievetrial.org

The findings shared in this summary are from the REPRIEVE population at a specific point in time. These findings are descriptive and not intended to change clinical care. If you have questions about what you've read, please talk to members of the REPRIEVE study team at your local site or a health care provider