

Heart Fat Linked to Liver Fibrosis in People With HIV

People with increased epicardial fat thickness have a higher likelihood of fibrosis even if they have normal liver function tests.

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HIV-positive people with fat accumulation around the heart have poorer metabolic health and are more likely to develop liver fibrosis, according to study results published [in the journal AIDS](#).

People living with HIV are more prone to comorbidities as they age, including cardiovascular and liver disease, both of which are linked to metabolic abnormalities and inflammation. [Metabolic dysfunction-associated steatotic liver disease \(MASLD\)](#), chronic hepatitis B or C and heavy alcohol consumption can all lead to liver fibrosis, which over time can progress to [cirrhosis](#) and [liver cancer](#).

Daniele Pastori, MD, Sapienza University of Rome, and colleagues evaluated the link between increased epicardial fat thickness, or the amount of fat surrounding the heart, and liver stiffness, a noninvasive measure of liver fibrosis.

The study included 91 people on effective antiretroviral therapy. About three quarters were men, and the median age was approximately 54 years. Epicardial fat thickness was measured using transthoracic echocardiography, liver steatosis (fat accumulation) was evaluated using ultrasound and liver stiffness was measured using Acoustic Radiation Force Impulse (ARFI) elastography. A liver stiffness cutoff of 8 kiloPascals or higher was considered suggestive of clinically relevant liver fibrosis. The HOMA-IR index, a measure of insulin resistance, was calculated for a subgroup of participants.

Greater epicardial fat thickness was correlated with longer duration of HIV infection, older age at study entry, body mass index, waist circumference, high-density lipoprotein and triglycerides levels and steatosis.

Overall, about one in five participants had a liver stiffness measurement of 8 Kpa or higher, but this was more likely among those with epicardial fat thickness above the median compared to those with less fat around their heart (30% versus 11%, respectively). In addition to epicardial fat thickness, liver stiffness was also significantly correlated with current and nadir (lowest-ever) CD4 T-cell counts. In the subgroup with HOMA-IR data, a level above 2.33 predicted increased

epicardial fat thickness, while a level above 3.27 predicted greater liver stiffness.

“People with HIV with increased epicardial fat thickness have worse metabolic profile and a high proportion of clinically relevant fibrosis at ARFI elastography, despite normal liver function tests,” the study authors concluded. “The HOMA-IR index might be used to identify people with HIV with increased Acoustic Radiation Force Impulse (ARFI) and liver fibrosis.

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