Liver Damage Persists Among People Living With HIV

The burden of viral and nonviral liver disease remains high even in the setting of hepatitis C microelimination.

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A substantial proportion of people living with HIV have persistent liver damage related to hepatitis C virus (HCV) or fatty liver disease, even in areas that have nearly eliminated HCV in segments of the population, according to study results published in the Journal of Infection.

Over years or decades, chronic hepatitis C can lead to serious liver complications, including cirrhosis, liver cancer and end-stage liver disease. Non-alcoholic fatty liver disease (NAFLD) and its more severe form, non-alcoholic steatohepatitis (NASH)—also known as metabolic-associated steatohepatitis (MASH)—can also cause these complications. Around one in five people living with HIV also have hepatitis C, and prior studies have shown that people with HIV/HCV coinfection may experience more rapid liver disease progression.

With the advent of effective direct-acting antiviral treatment that can cure most people with HCV, some cities and countries are aiming to achieve "microelimination," or a dramatic reduction in hepatitis C in smaller groups that are at greater risk for transmission, such as people who inject drugs and sexually active gay men. The hope is that smaller steps in the form of microelimination will eventually lead to elimination in the population as a whole. But even if HCV transmission is nearly halted, the residual burden of persistent liver damage and liver disease due to other causes may be substantial.

Juan Macías, MD, PhD, of Hospital Universitario Virgen de Valme in Seville, Spain, and colleagues investigated the prevalence and causes of liver damage among people 619 living with HIV who received care during 2019 and 2020.

Every three months, the researchers used transient elastography (FibroScan) to measure liver stiffness, an indicator of fibrosis progression, and controlled attenuation parameter, an indicator of steatosis, or liver fat accumulation. Significant liver disease was defined as a liver stiffness score of 7.2 kiloPascals (kPa) or higher advanced liver damage as 14 kPa or higher. Participants were classified as having nonviral liver damage if they had liver injury that was not due to chronic hepatitis C or active hepatitis B or E.

Most participants (83%) were men, 97% were white and the average age was 52 years. Nearly 90% had an undetectable HIV viral load, and the median CD4 T-cell count was approximately 600, but 28% had a history of AIDS. About 40% tested positive for HCV antibodies, but none had detectable HCV RNA, indicating that they had either naturally cleared the virus or had been treated and cured. In addition, 44% had metabolic-associated fatty liver disease.

Of the 619 participants, 112 (18%) showed evidence of significant liver damage, including 34 (5.5%) with advanced liver damage. About two thirds (64%) of people in this group had been cured of hepatitis C, four people (3.6%) had active hepatitis B and two had HBV with prior HCV coinfection. That left 40 people (36%) with nonviral liver damage. Within that group, 29 (73%) had MASH, two (2.5%) had alcohol-related liver damage and five (13%) had mixed steatohepatitis.

People with a lower current CD4 T-cell count, those with a lower nadir (lowest-ever) CD4 count and those with a history of AIDS were more likely to develop nonviral liver damage. This finding is “not unexpected,” the study authors wrote, as severe immunosuppression has been linked to an increased risk of fibrosis, likely due to underlying inflammation and chronic immune activation.

“After HIV/HCV microelimination, the burden of liver damage is high among people living with HIV,” wrote the researchers. “Persistent injury after HCV is a very frequent cause of significant liver damage. However, nonviral liver damage, mainly due to MASH, is also a common condition in this population.”

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