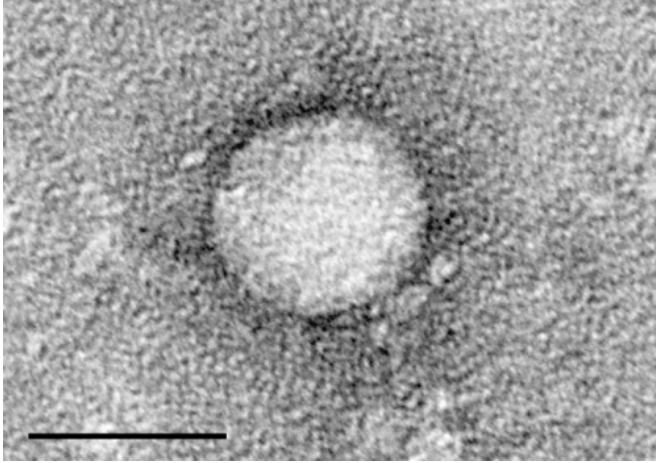


Hepatitis C infection may fuel heart risk

11 August 2015



Electron micrographs of hepatitis C virus purified from cell culture. Scale bar is 50 nanometers. Credit: Center for the Study of Hepatitis C, The Rockefeller University.

People infected with the hepatitis C virus are at risk for liver damage, but the results of a new Johns Hopkins study now show the infection may also spell heart trouble.

The findings, described online July 27 in *The Journal of Infectious Diseases*, emerged from a larger ongoing study of men who have sex with men, many but not all of whom were infected with HIV and followed over time to track risk of infection and disease progression. A subset of the participants had both HIV and [hepatitis C](#), two infections that often occur together.

Even though people infected with HIV are already known to have an elevated risk for [heart disease](#), researchers emphasize their results offer strong evidence that hepatitis C can spark cardiovascular damage independent of HIV.

Specifically, the research found that study participants chronically infected with hepatitis C were more likely to harbor abnormal fat-and-calcium plaques inside their arteries, a condition

known as atherosclerosis and a common forerunner of heart attacks and strokes.

"We have strong reason to believe that infection with hepatitis C fuels cardiovascular disease, independent of HIV and sets the stage for subsequent cardiovascular trouble," says study principal investigator Eric Seaberg, Ph.D., assistant professor of epidemiology at the Johns Hopkins Bloomberg School of Public Health. "We believe our findings are relevant to anyone infected with hepatitis C regardless of HIV status."

Investigators emphasize they don't know exactly how infection with the hepatitis C virus precipitates the growth of artery-clogging plaque but that their evidence is strong enough to warrant vigilant monitoring for cardiac symptoms among people infected with the virus.

"People infected with hepatitis C are already followed regularly for signs of liver disease, but our findings suggest clinicians who care for them should also assess their overall cardiac risk profile regularly," says study author Wendy Post, M.D., M.S., professor of medicine at the Johns Hopkins University School of Medicine and a cardiologist at the Johns Hopkins Ciccarone Center for the Prevention of Heart Disease.

Post says that at a minimum patients with hepatitis C would benefit from an annual cardiac evaluation that includes cholesterol and glucose testing, a blood pressure check and assessment of lifestyle habits.

The study involved 994 men 40 to 70 years old without overt heart disease who were followed across several institutions in Baltimore, Washington, D.C., Pittsburgh, Los Angeles and Chicago. Of the 994, 613 were infected with HIV, 70 were infected with both viruses and 17 were only infected with hepatitis C. Participants underwent cardiac CT scans to detect and measure the amount of fat and calcium deposits inside the vessels of their hearts. Those infected with hepatitis

C, regardless of HIV status, had, on average, 30 percent more disease-fueling calcified plaque in their arteries, the main driver of heart attack and stroke risk. People infected with either HIV or hepatitis C, on average, had 42 percent more noncalcified fatty buildup, a type of plaque believed to confer the greatest cardiac risk.

In addition, those who had higher levels of circulating hepatitis C virus in their blood were 50 percent more likely to have clogged arteries, compared with men without hepatitis C. Higher virus levels in the blood signal that the infection is not well controlled by drugs or the immune system. Poorly controlled infection, the investigators add, may lead to more inflammation throughout the body, which can fuel blood vessel damage and thus contribute to heart disease.

Treating hepatitis C infection promptly can ward off long-term [liver damage](#), but researchers say their findings now raise another critical question: whether a new class of medications that help 90 percent of patients clear the virus within a few short months could also halt the formation of plaque and reduce [cardiac risk](#) in the long run.

More than 2.7 million people in the United States are infected with the hepatitis C virus, according to estimates from the Centers for Disease Control and Prevention.

Provided by Johns Hopkins University School of Medicine

APA citation: Hepatitis C infection may fuel heart risk (2015, August 11) retrieved 15 May 2021 from <https://medicalxpress.com/news/2015-08-hepatitis-infection-fuel-heart.html>

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