

Study: Patients with resolved hepatitis C likely still contagious

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Patients with chronic hepatitis C that has been resolved through therapy or immune response may still be able to infect others with the virus. That finding is from a new study in the May issue of *Hepatology*, a journal published by John Wiley & Sons on behalf of the American Association for the Study of Liver Diseases (AASLD).

About 170 million people worldwide are infected with hepatitis C virus, which can progress to chronic hepatitis, cirrhosis and even liver cancer. In some individuals, the infection seems to resolve, either spontaneously from the efforts of the immune system, or after treatment with interferon and ribavirin.

Patients who achieve a sustained viral response show no clinical or biochemical evidence of liver disease and standard tests can no longer detect the virus in their blood. However, more sensitive research tests are finding that such patients often still have miniscule amounts of the virus in their bodies. No one knows if these trace remainders are infectious.

Researchers led by Tomasz I. Michalak of Memorial University of Newfoundland, Canada examined this question using a system that allows for propagation of HCV in human T cells in vitro.

They began with nine patients with HCV who had achieved a sustained viral response that persisted for at least two years after treatment. HCV RNA was detectable in their blood only with the more sensitive tests.

The researchers set up twelve cultures of lymphoid cells from healthy donors, and exposed them to plasma or to supernatants of cultured circulating lymphoid cells from the HCV patients. Eleven of the cell cultures became HCV RNA positive. Furthermore, HCV from three of the nine patients was able to establish active HCV replication in the cultures.

"These findings provide in vitro evidence that trace quantities of HCV persisting in the circulation for a long time after therapeutically induced resolution of CHC can remain infectious," the authors report.

Interestingly, HCV replication in the T cells was prevented after neutralization of the virus, and by treatment with interferon.

This study is the first to investigate the infectivity of HCV traces that remain when the infection is occult. It agrees with previous animal studies of the same question.

"Our present findings reveal that HCV circulating in some individuals with resolved [hepatitis C](#) is capable of inducing productive infection in vitro at doses of 20 to 50 copies," the authors conclude. "This can be interpreted as a strong indication of potential virus infectivity in vivo."

More information: "[Hepatitis C Virus](#) Persisting at Low Levels after Clinically Apparent Sustained Virological Reponse to Antiviral Therapy Retains Its Infectivity in Vitro." MacParland, Sonya A.; Pham, Tram N.Q.; Guy, Clifford S.; Michalak, Tomasz I. *Hepatology*; May 2009.

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