

# Women have higher rate of spontaneous clearance of hepatitis C virus

September 12 2013

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A study of patients infected with acute hepatitis C virus (HCV) infection found that women had higher rates of spontaneous viral clearance—undetectable levels of the virus without initiating drug therapy. Findings published in *Hepatology*, a journal of the American Association for the Study of Liver Diseases, indicate that the gene IL28B (rs12979860) and HCV genotype 1 are also independent predictors of spontaneous HCV clearance.

In 2011, there were 1,229 cases of acute HCV reported to the Centers for Disease Control and Infection (CDC), which represents a 44% increase over 2010. Medical evidence indicates that 25% of those with acute HCV spontaneously clear their infection. Previous prospective studies link female sex, immune responses, neutralizing antibodies and genetics to viral clearance.

"Knowledge of acute HCV clearance is limited given that patients are typically asymptomatic during the initial stages of infection and at-risk populations, such as people who inject drugs, are often marginalized," explains lead author Dr. Jason Grebely at The Kirby Institute, University of New South Wales in Australia. "Our research aims to advance understanding of time to and predictors of HCV clearance to improve early [therapeutic intervention](#) options."

Researchers used data from the InC3 Study—a collaboration of nine prospective studies from Australia, Canada, the Netherlands, and the U.S. funded by the National Institutes of Health and led by Professor

Kimberly Page from the University of California San Francisco—which included participants with HCV and [human immunodeficiency virus](#) (HIV) who were recruited between 1985 and 2010. The present study included 632 individuals diagnosed with acute HCV with 35% of the group being female and 82% Caucasian. Roughly 96% of participants had injected drugs, 47% were infected with HCV genotype 1 and 5% were co-infected with HIV.

Results show that 173 of the 632 participants had spontaneously cleared the [virus](#) during follow-up. At one year post-infection, 25% had HCV clearance. The average time to clearance among those who cleared HCV was 16.5 weeks, with 34%, 67% and 83% demonstrating clearance at 3, 6 and 12 months, respectively.

"Our findings indicate that females, those with the IL28B gene, and those with HCV genotype 1 are independent predictors of spontaneous clearance of acute HCV," concludes Prof. Kimberly Page. "Further research is necessary to understand the effect of sex in controlling HCV [infection](#)."

**More information:** "The Effects of Female Sex, Viral Genotype and IL28b Genotype on Spontaneous Clearance of Acute Hepatitis C Virus Infection." Jason Grebely, Kimberly Page, Rachel Sacks-Davis, Maarten Schim van der Loeff, Thomas M. Rice, Julie Bruneau, Meghan D. Morris, Behzad Hajarizadeh, Janaki Amin, Andrea L. Cox, Arthur Y. Kim, Barbara H. McGovern, Janke Schinkel, Jacob George, Naglaa H. Shoukry, Georg M. Lauer, Lisa Maher, Andrew R. Lloyd, Margaret Hellard, Gregory J. Dore and Maria Prins on behalf of the InC3 Study Group. *Hepatology*; ( [DOI: 10.1002/hep.26639](https://doi.org/10.1002/hep.26639) ); Published Online: August 2, 2013.

Provided by Wiley

Citation: Women have higher rate of spontaneous clearance of hepatitis C virus (2013, September 12) retrieved 27 April 2024 from <https://medicalxpress.com/news/2013-09-women-higher-spontaneous-clearance-hepatitis.html>

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