

# Antivirals for HCV improve kidney and cardiovascular diseases in diabetic patients

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Researchers from Taiwan reveal that antiviral therapy for hepatitis C virus (HCV) improves kidney and cardiovascular outcomes for patients with diabetes. Results of the study published in *Hepatology*, a journal of the American Association for the Study of Liver Diseases, show that incidences of kidney disease, stroke, and heart attack were lower in patients treated with pegylated interferon and ribavirin compared to HCV patients not treated with antivirals or diabetic patients not infected with the virus.

The World Health Organization (WHO) estimates that [diabetes](#) affects 347 million individuals worldwide and another 170 million people are living with chronic HCV. Previous research suggests a link between diabetes and chronic HCV, with HCV infected individuals having a greater chance of developing [insulin resistance](#) and diabetes. Moreover, HCV patients with insulin resistance, with or without diabetes, have a poor response to antiviral treatment, increased progression of liver fibrosis and greater risk of developing liver cancer (hepatocellular carcinoma).

"There is growing evidence of an association between diabetes and HCV," explains lead author, Chun-Ying Wu, MD, PhD, MPH from Taichung Veterans General Hospital in Taiwan. "Our study investigates if antiviral therapy used to treat HCV infection also improves diabetes outcomes."

For this population-based study researchers used data from the Taiwan

National Health Insurance Research Database, which has collected healthcare details for all residents of the country since 1997. The team identified 1,411 patients with diabetes and HCV who were enrolled in the study, and received pegylated interferon plus ribavirin. There were also 1,411 individuals in the untreated group and 5,644 patients with diabetes and without HCV in the uninfected cohort. Follow-up for all participants was from 2003 to 2011.

Findings indicate that the 8-year cumulative incidences of end-stage renal disease in the treated, untreated and uninfected groups were 1.1%, 9.3%, and 3.3%, respectively. Further analysis found stroke incidence was 3.1% for treated patients, 5.3% for untreated and 6.1 for uninfected subjects. Acute coronary syndrome—an umbrella term the American Heart Association uses to define diseases, such as heart attack or angina, where blood to the heart is blocked—occurred in 4.1%, 6.6% and 7.4% of treated, untreated and uninfected patients.

"Our findings suggest that HCV may cause clinical complications related to diabetes. But these issues are mitigated by HCV [antiviral therapy](#), specifically pegylated interferon plus ribavirin, which was found to reduce risks of kidney disease, stroke and cardiovascular diseases in diabetic patients," concludes Dr. Wu. The authors recommend further examination of the underlying relationship between HCV and diabetes.

**More information:** "Antiviral Treatment for Hepatitis C Virus Infection is Associated with Improved Renal and Cardiovascular Outcomes in Diabetic Patients." Yao-Chun Hsu, Jaw-Town Lin, Hsiu J. Ho, Yu-Hsi Kao, Yen-Tsung Huang, Nai-Wan Hsiao, Ming-Shiang Wu, Yi-Ya Liu and Chun-Ying Wu. *Hepatology*; [DOI: 10.1002/hep.26892](https://doi.org/10.1002/hep.26892)

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