People with hepatitis C are as likely as people without the virus to produce protective antibodies after receiving the hepatitis B vaccine, according to research published in The Journal of Infectious Diseases.

Hepatitis B virus (HBV) infection can be prevented with an effective vaccine. Indeed, routine infant vaccination has reduced hepatitis B rates in several countries, including the United States. The Centers for Disease Control and Prevention recommends the hepatitis B vaccine for people at risk who were not vaccinated as children. These include people with multiple sex partners, gay and bisexual men, people who inject drugs and medical providers and others who could be exposed on the job.

Hepatitis B vaccination is also recommended for people living with HIV and those with chronic liver diseases, such as hepatitis C. This is important because people who already have another liver disease are at risk for more severe liver injury if they get hepatitis B. (There is currently no vaccine for hepatitis C.)

Jiaye Liu, MD, of Shandong University in China, where hepatitis B is endemic (very common), and colleagues conducted a study to determine how well people with chronic hepatitis C would respond to the hepatitis B vaccine. This is a concern because some research suggests that having hepatitis C virus (HCV) might reduce immune function, including the ability to produce antibodies.

In this study, 79 people with untreated chronic HCV infection were each matched by age and sex with two community members without HCV. All participants were given the standard schedule of three injections of the hepatitis B vaccine.

One month after the last dose, participants’ blood samples were tested for antibodies against hepatitis B surface antigen and various cytokines, which are chemical messengers that play a role in immune response.

People with and without hepatitis C had a similar likelihood of developing protective levels of antibodies against hepatitis B, and average antibody levels did not differ significantly between the
two groups. Overall, about 96 percent of people with hepatitis C and about 99 percent of people without hepatitis C achieved some level of protection from the vaccine.

Among people with hepatitis C, about 46 percent showed normal or expected levels and 41 percent had high levels of HBV antibodies, while 10 percent had low levels and just under 4 percent had no detectable antibodies. Among people without hepatitis C, 39 percent and 49 percent had normal and high levels, respectively, while 10 percent had low levels and only about 1 percent had undetectable antibodies. None of these differences were statistically significant.

There were also no significant differences in levels of the cytokines interferon-gamma and interleukin 2 (IL-2), IL-4, IL-5 or IL-6.

Hepatitis B vaccination was generally safe and well tolerated, with no notable differences in adverse events observed between people with and without hepatitis C.

“This study provided preliminary evidence of the good immunogenicity and safety of hepatitis B vaccination among not-in-treatment chronic hepatitis C patients in China,” the researchers concluded.

To read the study abstract, click here.