Why Don’t Hepatitis B Vaccines Work as Well for People With HIV?

Funded by a grant from The Campbell Foundation, researcher Ankita Garg studies how people with HIV respond to hepatitis B vaccines.

April 19, 2024 By Trent Straube

Hepatitis B virus (HBV) is a highly contagious viral infection that’s spread through body fluids such as blood and semen. When chronic, it can lead to scarring of the liver, liver cancer and death. People living with HIV are more likely to develop hepatitis B and less likely to be protected from the effective vaccines that are available.

Why is that? Researcher Ankita Garg, PhD, hopes to find out. An infectious disease and immunology specialist at the University of Georgia, she received a $75,000 grant from The Campbell Foundation to study why some people with HIV experience a lower antibody response to hepatitis B vaccines. Specifically, Garg and her team will explore the underlying immunological and epigenetic (how behavior and environment cause changes in the genes) mechanisms.

Ankita Garg, PhD, of the University of Georgia studies hepatitis B vaccinations in people with HIV.Courtesy of the Campbell Foundation

“We propose that the T follicular helper (Tfh) cells of those who fail to respond to the HBV vaccine exhibit an epigenetic pattern on their DNA that lowers the B-cell antibody production,” Garg said in a Campbell Foundation press statement. “Since epigenetic changes are reversible, we will further determine if treatment with epigenetic modifiers can enhance B-cell antibody production in HBV

vaccine nonresponders."

"Despite the existence of a vaccine, more than 250 million people are chronically infected by HBV," added Ken Rapkin, executive director of The Campbell Foundation. "According to the Centers for Disease Control and Prevention, approximately 10% of those living with HIV in the United States also have HBV. This research serves as a good pilot study that has the potential to result in more comprehensive research in the future."

Founded in 1995 and headquartered in Fort Lauderdale, The Campbell Foundation has awarded over $12 million to HIV research and related causes. It focuses on supporting alternative, laboratory-based clinical research on the prevention and treatment of HIV.

Our first newsletter of 2024 is out - catch up on the latest and thanks for your continued support!

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Although antiretroviral therapy can suppress both HIV and HBV, people living with both viruses experience higher rates of illness and death than people with only HIV.

In the United States, about 1.2 million people are living with HIV. It's also estimated that 2 million people are living with hepatitis B.

Globally, about 254 million people are living with hepatitis B, according to the World Health Organization (WHO), which recently released a 2024 Global Hepatitis Report. Every day, nearly 3,500 people die due to hepatitis B and C infections.

To read related articles in POZ magazine, click #Hepatitis B. You'll find headlines such as "Hepatitis B and C May Lead to Higher Cancer Risk Than Smoking a Pack a Day," "Hepatitis B Vaccine May Work Better After Hepatitis C Cure" and "Should More People Be Treated for Hepatitis B?"

To learn more about hepatitis, check out POZ's sister publication Hep magazine at HepMag.com. Of note is the Basics on Hepatitis B, part of the section titled Your Liver Health.

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