

# Liver transplant recipients with hepatitis B may need lifelong antiviral treatment

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Patients who undergo liver transplantation for hepatitis B-related liver damage should receive lifelong antiviral treatment to keep the disease from coming back. A new study shows that they lack cellular immunity against the disease, making recurrence likely if antiviral treatment is withdrawn. These findings are in the March issue of *Liver Transplantation*.

Chronic hepatitis B (HBV) is a common cause of advanced liver disease and liver cancer. Liver transplantation is the most effective treatment, however, without ongoing antiviral therapy, HBV recurs in 80 percent of recipients. While the patient's immune system plays a critical role in both viral clearance and liver injury, the role of HBV-specific cellular immunity in liver transplant patients has been unclear.

Researchers, led by Chung Mau Lo, of The University of Hong Kong, set out to understand this immunity in patients with HBV who received a liver transplant. They examined HBV-specific CD4 T-cell immune response in 52 HBV patients who'd undergone liver transplantation. Forty of these patients had experienced HBV recurrence and 12 had not. They compared data from 63 people with HBV who had not undergone transplantation. Forty such patients had chronic HBV and 23 had self-limited infection.

Researchers introduced HBV-encoded antigens to blood samples from each patient. They then determined T-cell proliferation and interferon- $\gamma$  production in vitro. They found that cellular immunity in transplant

recipients with recurrence was not significantly different from that of chronically infected individuals with elevated aminotransferases. However, transplant patients without recurrence had lower or undetectable CD4 T-cell response.

"Our results provide strong evidence to support the concept that the CD4 T cell-mediated immune response is an antigen-driven process," the authors report.

An accompanying editorial by Anne Marie Roque-Afonso of Hopital Paul Brousse in France suggests that the study points to the need for indefinite antiviral therapy in liver transplant recipients with HBV, due to their lack of anti-HBV immunity.

"Immunosuppression following liver transplantation for HBV-related disease presents the maximal risk of viral reactivation and mandates life-long prophylaxis," she concludes.

Source: Wiley

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