# Liver stiffness predicts liver failure, cancer and mortality in cirrhotic patients

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Researchers from Spain established that liver stiffness, measured by transient elastography (TE), is an independent predictor of liver failure, hepatocellular carcinoma (HCC), and mortality in cirrhotic patients coinfected with the human immunodeficiency virus (HIV) or acquired immune deficiency syndrome (AIDS), and hepatitis C virus (HCV). Findings available in the July issue of *Hepatology*, a journal published by Wiley on behalf of the American Association for the Study of Liver Diseases, also show that measurement of liver stiffness predicts potential recovery and survival in patients with cirrhosis, adding to the prognosis value provided by the Child-Turcotte-Pugh (CTP) or model for end-stage liver disease (MELD) scores.

According to the World Health Organization (WHO), chronic HCV affects up to 170 million people worldwide, with more than 350,000 of those dying from HCV-related liver diseases annually. WHO also reports that in 2010 nearly 34 million individuals worldwide were living with HIV. Additionally, a 2008 report from the Centers for Disease Control and Prevention (CDC) found that mortality rates were highest among those infected with HCV at nearly five deaths per 100,000 people. In fact, since 1999 deaths from HCV have steadily increased and now exceed HIV infection mortalities.

For the present study Dr. Nicolás Merchante from the Unidad de Enfermedades Infecciosas, Hospital Universitario de Valme in Sevilla, Spain conducted a multicenter prospective study of cirrhotic patients coinfected with HIV and HCV beginning in February 2006. A total of 239 consecutive HIV/HCV patients with a new diagnosis of compensated cirrhosis participated in the study to assess the predictive value of liver stiffness as measured by TE.

Participants were followed between nine and 34 months, and 13% of patients developed liver failure (decompensation). The incidence of decompensation was 6.7 cases per 100 person-years. Researchers reported 15 patient deaths with ten due to liver disease, and liver transplant was performed on one patient. In 8% of 181 patients with baseline liver stiffness less than 40 kPa developed liver failure compared with 29% of 58 patients with liver stiffness greater than 40 kPa.

Medical evidence shows that end-stage liver disease from chronic HCV is a leading cause of death in HIV-infected individuals living in western countries. "For patients with end-stage liver disease , transplantation is often the only treatment option," said Dr. Merchante. "Earlier recognition of cirrhosis and optimal treatment of cirrhotic patients at the initial stages are critical. Our findings indicate that liver stiffness predicts risk of liver failure and liver-related deaths in patients with compensated cirrhosis who are coinfected with HIV and HCV, providing more advanced detection of disease severity."

The authors suggest that future studies should evaluate if liver stiffness is also an independent prognostic marker in decompensated cirrhosis, which then could be used in conjunction with CTP and MELD scores in considering patients referred for liver transplantation.

**More information:** "Liver Stiffness Predicts Clinical Outcome in Hiv/Hcv-Coinfected Patients with Compensated Liver Cirrhosis." Nicolás Merchante, Antonio Rivero-Juárez, Francisco Téllez, Dolores Merino, Maria José Ríos-Villegas, Manuel Márquez-Solero, Mohamed Omar, Juan Macías, Ángela Camacho, Montserrat Pérez-Pérez, Jesús Gómez-Mateos, Antonio Rivero, Juan Antonio Pineda on behalf of the Grupo Andaluz para el Estudio de las Hepatitis Víricas (HEPAVIR) de la Sociedad Andaluza de Enfermedades Infecciosas (SAEI). *Hepatology*; (DOI: 10.1002/hep.35616); Print Issue Date: July, 2012.

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