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# Hepatitis E virus infections can be life threatening and transmitted through blood products

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Hepatitis E virus (HEV) infection is once again in the spotlight, with two studies presented today at The International Liver Congress 2018 in Paris, France challenging the ideas that HEV infections are benign and self-limiting, and that blood-borne transmission is a rare event. Researchers from Hamburg and Hannover in Germany collaborating on these studies have demonstrated that HEV infections can be fatal in immunocompromised, and in some cases, immune-competent individuals. They also demonstrated that blood products are an important source of infection in those who are immunosuppressed.

Hepatitis E virus infection is one of the leading causes of acute viral hepatitis worldwide, with two main genotypes (genotypes 1 and 3) affecting humans.10 Genotype 1 predominates in low-income countries and is transmitted via the faecal-oral route, while genotype 3 predominates in high-income countries and has been linked to the consumption of contaminated pork or shellfish products.[8] The reported incidence of HEV infection has been increasing steadily across Europe, with more than 21,000 cases reported in a recently evaluated decade (2005-2015).

In a large observational study presented this week in Paris, 150 HEV RNA-positive individuals were identified retrospectively from the records of two tertiary referral hospitals and transplant centres in Northern Germany. Of the 69 immune-competent individuals identified,

37 (53%) were hospitalized for a total of 74 days, and two of these individuals who had preexisting liver disease died after developing acute-on-chronic liver failure. Eight (10%) immunosuppressed patients died within 5 years of being diagnosed with HEV infection, with three of these deaths considered to be related to the HEV infection.

"We have shown in this study that HEV infection can be associated with significant morbidity and mortality, and that a severe disease course is not limited to those who are immunocompromised," said Dr. Sven Pischke from the University Hospital Hamburg-Eppendorf in Germany. "Based on these findings, we urge all hepatologists to consider HEV as a differential diagnosis in any patient who presents with acute-on-chronic liver failure."The second study involved a retrospective analysis of data from 37 immunosuppressed patients with HEV infection. Eleven of these patients (30%) developed chronic HEV infection and, in four of these individuals (36%), the source of infection could be traced to an HEV-positive blood donation. Two of these patients were heart transplant recipients who had been treated with a combination of plasmapheresis and rituximab for humoral rejection.

"The number of notified transfusion-transmitted HEV infections has so far been relatively low, probably due to under-reporting and under-recognition," said Dr. Dirk Westhölter from the University Hospital Hamburg-Eppendorf, who presented the study findings today. "This study confirms that blood products are an important source of HEV infection for immunosuppressed individuals and it has led us to recommend HEV RNA screening of all blood products destined for transplant or immunosuppressed patients."

"Both studies emphasize the severity of hepatitis E virus infection in vulnerable patients," said Prof. Markus Cornberg from the Hannover Medical School, Germany, and EASL Governing Board Member. "Acute infection needs to be prevented by all measures in patients with

advanced liver disease, and in immunocompromised patients. Blood products can be an important source of transmission. These studies will lead to further discussions around if and how HEV screening of blood products should be carried out."

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