

Survivorship improving for acute liver failure patients, 16-year analysis led

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More patients hospitalized with acute liver failure - often the result of acetaminophen overdose - are surviving, including those who receive a liver transplant and those who don't, an analysis led by a UT Southwestern Medical Center researcher showed.

Researchers compared more than 2,000 patients with [acute liver failure](#) (ALF) - those hospitalized between 1998 and 2005 to those hospitalized with ALF between 2006 and 2013. They assessed survivorship in each group after 21 days of being hospitalized and found:

- Overall survival rates rose from 67 percent to 75 percent.
- Survival of ALF patients who did not receive a [liver transplant](#) rose from 45 percent to 56 percent.
- Survival of ALF patients who were transplanted rose from 88 percent to 96 percent.

"These trends show that if you manage this disease carefully, which sometimes means less rather than more intervention, you see better outcomes," said hepatologist Dr. William Lee, Professor of Internal Medicine at UT Southwestern. "ALF is a rare condition - only 2,000 cases occur a year - but the disease is noteworthy because it typically happens in young people and treatment requires a large amount of resources."

Acute [liver failure](#) involves sudden injury to the liver - most frequently from overdose of acetaminophen - that requires rapid hospitalization

with an individual appearing healthy one day and requiring intensive care the next. ALF results in brain dysfunction (hepatic encephalopathy) and clotting issues (coagulopathy), and ALF patients are given the most urgent ranking status for [liver transplantation](#) because of their rapidly deteriorating condition.

Researchers compared about 1,000 patients in each group and found that the causes of acute liver failure, the severity of the disease, and its characteristics remained relatively stable between the two time frames. In both patient sets, acetaminophen overdose was the most common cause of ALF, accounting for nearly half of all cases. Accidental overdose - patients taking products containing acetaminophen for pain or fever over a period of time - was more common than intentional overdose during both time frames. Other causes of ALF include pregnancy-associated liver injury, infection with hepatitis A or B viruses, Budd-Chiari syndrome, and Wilson disease.

Age, sex, and race characteristics of ALF patients also remained similar between the two time periods, researchers found, with women and Caucasians most affected and the mean age around 40.

The study, which appears in the journal *Annals of Internal Medicine*, collected data on acute liver failure patients at 31 academic liver transplant centers across the U.S. Researchers identified several differences between the two groups over the 16-year time span.

Hepatitis A was responsible for significantly fewer cases in the 2006-2013 time frame, most likely because of increased vaccination for hepatitis A, said Dr. Lee, who holds the Meredith Mosle Chair in Liver Disease in his honor.

Researchers also noticed differences in therapeutic interventions between the two time frames.

There was more use of N-acetylcysteine, which is prescribed to treat acetaminophen overdose, for patients between 2006 and 2013, including many patients whose condition was not caused by acetaminophen. There was less use of ventilator support, vasopressors, and plasma and red blood cell transfusions for [patients](#) in this time frame as well.

"There was less use of blood products in the latter group, which may be for the best, as there can be complications from blood products," said Dr. Lee "The deleterious effects of unnecessary blood transfusion in [intensive care](#) and the futility of routine use of plasma administration in ALF have become better appreciated with time."

More information: Adrian Reuben et al. Outcomes in Adults With Acute Liver Failure Between 1998 and 2013, *Annals of Internal Medicine* (2016). [DOI: 10.7326/M15-2211](https://doi.org/10.7326/M15-2211)

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