



New Dialysis Machine Proved Effective in Treating Liver Failure

The device may be approved for clinical use within the next three years.

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A new [dialysis](#) machine improved the severity of symptoms and organ function among people with acute-on-chronic liver failure (ACLF) in a recent clinical trial published in the [Journal of Hepatology](#). The device will advance to a larger study and, if successful, may be approved for clinical use within three years.

It is estimated that about 100 million people worldwide live with [cirrhosis](#) of the liver. About 3 million of those people have ACLF, a serious condition that occurs in patients with preexisting chronic [liver disease](#) and is associated with multi-organ failure and increased mortality, according to the [National Library of Medicine](#).

To reverse the effects of [liver failure](#) and address the factors that contribute to ACLF mortality, researchers from the University College of London's (UCL) Institute for Liver and Digestive Health and colleagues invented the DIALIVE device, according to a [UCL news release](#).

When liver function declines significantly, so does the organ's production of albumin, a protein that absorbs harmful substances. This leads to liver cell death, which allows bacteria from the gut to enter the bloodstream, potentially causing an erroneous immune response and multi-organ failure.

The study was among the first randomized, controlled clinical trials of a liver dialysis device to be tested on humans. The trial tested the safety and efficacy of DIALIVE compared with standard care in 32 patients.

DIALIVE treatment resulted in significantly faster reversal of ACLF, according to researchers. Patients who received treatment for as little as three days experienced remission for 28 days after. Researchers also reported that treatment with DIALIVE improved albumin production and significantly reduced endotoxins, which are released when bacteria die.

In the UCL news release, the DIALIVE trial's chief investigator, Banwari Agarwal, MD, of the Royal Free Hospital, said: "It gives me enormous pleasure to see the promise of this novel liver dialysis device for the treatment of acute-on-chronic liver failure. The intervention has the potential to

transform the care provided to the ever-increasing number of patients and their families suffering from the effects of living with what is essentially a terminal illness for many. It has the potential to transform the therapeutic options available to clinicians across the world for patients with ACLF.”

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