

Survival 'excellent' following living donor liver transplantation for acute liver failure

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Patients in Japan who underwent living donor liver transplantation (LDLT) for acute liver failure (ALF) were classified as having excellent outcomes, with ten-year survival at 73%. The findings, published in the September issue of *Liver Transplantation*, a journal of the American Association for the Study of Liver Diseases (AASLD), suggest that the type of liver disease or treatment plan does not affect long-term patient survival following LDLT. Donor and patient age, however, does impact long-term outcome post-transplant.

According to the AASLD, roughly 2,000 Americans develop ALF—formally called fulminant hepatitis—each year, with many of these cases caused by acetaminophen (Tylenol) overdose, drug-induced [liver injury](#), [autoimmune liver disease](#), or [viral hepatitis](#). Previous studies report patient survival from ALF was less than 15% before the era of [liver](#) transplantation and significantly better at more than 65% following transplantation.

LDLT—when a portion of a healthy liver from a living donor is used for transplantation—was developed as an alternative treatment option to overcome the shortage of deceased donor organs. A 2007 study by de Villa et al. found that LDLT accounts for less than 5% of [liver transplants](#) in the U.S. and Europe compared to more than 90% in Asia excluding [mainland China](#).

"ALF is a rare, life-threatening condition where the rapid deterioration of [liver function](#) causes changes in mental activity and disrupts the body's blood clotting capabilities," explains lead author Dr. Yasuhiko Sugawara, Associate Professor in the Graduate School of Medicine at the University of Tokyo in Japan. "Expanding knowledge of treatment options, such as LDLT, that improve patient outcome is imperative."

Using data from the Intractable Liver Disease Study Group of Japan, researchers identified 209 ALF candidates who underwent living donor liver

transplantation. The authors report that in patients who underwent LDLT the cumulative one-year, five-year and ten-year survival rates following transplantation were 79%, 74%, 73%, respectively. Patient age impacted short-term and long-term mortality, while donor age only affected long-term patient mortality.

"Our study demonstrates the benefit of LDLT in a Japanese population, which has less access to deceased donor organs," concludes Dr. Sugawara. "Prospective studies are needed to determine the overall impact of LDLT in all patients with ALF."

In a related editorial also published in *Liver Transplantation*, Professor Chung-Mau Lo with the University of Hong Kong and Queen Mary Hospital in Hong Kong, China, notes that LDLT for ALF patients has generated debate among experts in several areas: (1) reports in Western countries of inferior outcome with LDLT in high-urgency situations; (2) likelihood of ALF patients receiving a liver in countries with developed deceased organ donation programs; and (3) concern with coercion of donors and a possible increase of donor risk when the evaluation process is rushed in such an urgent situation.

"Deceased [donor liver transplantation](#) is dictated by the availability of the organ, and high-risk marginal grafts are frequently used. LDLT allows for early transplant to avoid waitlist mortality and better timing of the operation, which can be performed at the first sign of patient deterioration," concludes Professor Lo. "LDLT for ALF has developed in Asia because there is no choice. Is it possible that it may in fact be a better choice?"

More information: "Outcome after Living Donor Liver Transplantation for Acute Liver Failure in Japan; Results of a Nationwide Survey." Noriyo Yamashiki, Yasuhiko Sugawara, Sumihito Tamura, Nobuaki Nakayama, Makoto Oketani, Koji Umeshita, Shinji Uemoto, Satoshi Moachida,

Hirohito Tsubouchi and Norihiro Kokudol. *Liver Transplantation*; (DOI: [10.1002/lt.23469](https://doi.org/10.1002/lt.23469)) Print Issue Date: September, 2012.

Editorial: "Living Donor Liver Transplantation for Acute Liver Failure: No Other Choice" Chung-Mau Lo. *Liver Transplantation*; (DOI: [10.1002/lt.23492](https://doi.org/10.1002/lt.23492)) Print Issue Date: September, 2012.

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