

Publication Brief

Status of Adult Living Donor Liver Transplantation in the United States: Results from the Adult-To-Adult Living Donor Liver Transplantation Cohort Study

Dept. of Surgery, Transplantation Unit, Hadassah Hebrew Univ Med Ctr, Kiryat Hadassah, Jerusalem, Israel. samirski11@yahoo.com. 2 Dept. of Surgery, Division of Transplant Surgery, Perelman School of Medicine, Univ of Pennsylvania, Philadelphia, PA

BACKGROUND

Living Donor Living Transplant (LDLT) was first reported in the US in 1998 in response to a shortage of cadaver livers for transplant. Since then LDLT has been performed in more than 4500 patients in 89 centers across the country. In 2002 the Adult-to-adult Living Donor Liver transplant Cohort Study (A2ALL) was launched to gather information on outcomes for both LDLT donors and recipients. In 2009, the study was continued with additional funding from the National Institutes of Health (NIH). LDLT current trends show that LDLT is concentrated in only a few centers across the country with only 12 centers performing more than 10 LDLT in 2016. Below is a summary of A2ALL findings:

- Data from 2742 donors and 2182 recipients were collected and analyzed from the A2ALL study which then generated more than 43 publications.
- Most A2ALL results agreed with published data from non-A2ALL centers.
- Long-term LDLT outcomes demonstrated a significant and sustained survival benefit compared with deceased donor liver transplantation (DDLT) although there were more technical complications after LDLT than after DDLT, the most common being infections and biliary and vascular complications.
- Similar mortality rates were found between A2ALL and non-A2ALL centers, with older recipient age, hepatocellular carcinoma diagnosis, cold ischemia time (more than 4.5 hours), higher serum creatinine, and in-patient or ICU hospitalization identified as significant predictors of mortality.
- A significant LDLT learning curve was identified, with more graft and patient loss identified in the first 15 to 20 LDLT cases performed at a center. Left and right lobe liver allografts performed equally well.
- Similar results after LDLT and DDLT were demonstrated in patients with HCV infection but with the anti-HCV therapy, LDLT can be performed with better timing of the transplant compared with DDLT.
- Lower rates of acute cellular rejection after LDLT occur when the donor and recipient are biologically related.
- Most donors did not regret donating part of their liver although of donor complications (24%) include low platelet count (up to 10% of donors), as well as rare (2%–8%) psychosocial and financial problems.

CONCLUSION

LDLT has an important benefit for patients with acute liver failure, without compromising donor safety.

TAKE HOME POINTS

This article reviews the findings of the Adult-to-Adult Living Donor Liver Transplant Cohort Study (A2ALL). The number of adult-to-adult living donor liver transplants is consistently increasing because it has an important benefit for patients with acute liver failure, does not compromise donor safety, and has lower rates of acute cellular rejection in biologically related donor and recipient. The conclusions from the A2ALL consortium support its increased use in order to help decrease deaths in patients while they are waiting for a transplant and to improve long-term survival of transplant recipients.

Reference:

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