

Plain language summary for:

Olthoff KM, Merion RM, Ghobrial RM, Abecassis MM, Fair JH, Fisher RA, Freise CE, Kam I, Pruett PL, Everhart JE, Hulbert-Shearon TE, Gillespie BW, Emond JC, and the A2ALL Study Group. Outcomes of 385 adult-to-adult living donor liver transplants: a report from the A2ALL consortium. *Annals of Surgery* 2005; 242:314-325.

.What is the problem and what is known about it so far?

Live donor liver transplants have been performed for several years, but we are just beginning to understand the usefulness of this procedure. Since live donor transplant is such a new procedure, there is a particular need for information about the outcomes of this surgery. This study represents the largest experience in the world measuring the outcomes of recipients of this procedure and represents the combined experience of the nine liver transplant centers from the A2ALL Study (Adult to Adult Live Donor Liver Transplantation Cohort Study).

Why did the researchers do this particular study?

This study was performed to determine the complications experienced by recipients of live donor liver transplant and to determine factors which might contribute to these complications. A better understanding of the risk factors and complications is the first step towards improving outcomes of this surgery.

Who was studied?

All of the patients who had a live donor liver transplant at the 9 A2ALL transplant centers between January 1998 and March 2003 were included in this analysis.

How was the study done?

The records of each of these patients were reviewed to determine survival and the type of problems they experienced after surgery.

What did the researchers find?

1) By 90 days after surgery 87% of the transplanted live donor livers were still functioning and by one year 81% were still functioning. In the U.S. as a whole, approximately the same proportions of deceased donor livers are found to be functioning at these time points.

2) Of the 13 % of patients whose livers failed by 90 days after surgery, some of the recipients were re-transplanted and some died.

3) The three most common causes of liver failure after the live donor liver transplant were clots in the artery that supplies blood and oxygen to the transplanted liver, severe infection and simply that the liver did not work at all for unknown reasons. These are also complications seen in whole liver transplantation.

4) The main risk factors for a patient having liver failure after transplant were older recipient age and prolonged time between removal of the liver from the donor until transplantation into the recipient.

5) Patients who were transplanted after the centers' early experience (after performing more than 20 live donor liver transplants at that center) had better outcomes.

What were the limitations of the study?

We were not able to measure all of the factors which could contribute to liver failure because the information was retrieved from patient records and not recorded in real-time. The current ongoing A2ALL study will record patient outcomes in real time and will give us an even better understanding of patient outcomes.

What are the implications for the study?

Living donor liver transplantation has an acceptable survival rate and should continue to be performed.

We have identified risk factors which may contribute to problems after surgery including advanced age of the recipient and prolonged time between removal of the donor liver and transplantation. We have used this information in the consideration of recipient selection and surgical practices in the operating room. We have also shown that as experience increases within centers, the outcomes improve as well.