

Some donor factors affect outcomes for HCV-positive liver transplant recipients

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Two new studies address donor factors that could affect outcomes for liver transplant recipients, particularly those with chronic hepatitis C (HCV). One found that donor steatosis, or fat in the liver, does not affect liver disease progression or three-year survival in recipients with or without HCV. However, transplants from people higher on the Donor Risk Index did adversely affect the outcomes of HCV-positive recipients more than recipients without HCV.

These studies are in the June issue of [Liver Transplantation](#), a journal published by John Wiley & Sons.

HCV is a common cause of end-stage [liver disease](#). It accounts for almost half of the patients awaiting a [liver transplant](#), 15 percent of whom will die before an organ becomes available. To address this critical shortage, researchers have searched for ways to expand the pool of potential donors. They have tried living donor liver transplantation, partial liver transplants, and the use of grafts from donors who may be less than ideal. Sub-optimal donors might include those of advanced age or with other medical conditions such as hepatic steatosis, also known as fatty liver disease, which is common in overweight individuals.

Researchers led by Patrizia Burra of Padova, Italy examined the impact of donor livers with steatosis on recipients with and without HCV. They included 116 consecutive liver transplants on 56 HCV-positive and 60 HCV-negative recipients and followed-up with liver biopsies at 6, 12, 24 and 36 months.

"There was no correlation between donor graft steatosis and fibrosis after liver transplantation, irrespective of the etiology of liver disease," the authors report. They also found no evidence that steatosis affected patient survival up to three years post-transplant.

In another study, researchers led by Daniel Maluf of Virginia Commonwealth University performed a retrospective analysis of 16,678 patients who received a liver transplant between January 2000 and June 2006. They examined the impact of the donor risk index (DRI) on patient outcomes.

"Increasing DRI was associated with a statistically significant increase in the relative risk of graft failure and patient death for both HCV-positive and HCV-negative individuals," they report. "However, HCV-positive recipients demonstrated a significantly higher increase in relative risk of patient and graft loss as a function of the DRI than HCV-negative subjects, even after adjustment for several recipient factors including MELD."

Donor age was the most significant, but not the only, factor that correlated to worse outcomes. The authors concluded that high DRI grafts should be used carefully in HCV-positive patients.

In an accompanying editorial, Sandy Feng of the UCSF Medical Center, supports the findings of these new studies, and highlights the need to focus on survival benefit for liver transplant recipients in a time of donor organ shortage.

"It is now possible to create an allocation algorithm that can systematically and objectively account for the variable impact of donor characteristics on liver transplant outcomes within the context of recipient diagnosis and disease severity," she concludes. "I believe that this would be the most equitable and transparent way to distribute the differential risk posed by the donor pool to individual transplant candidates."

More information:

Article: "Impact of the Donor Risk Index in the Outcome of HCV+ Liver Transplant Recipients." Maluf, Daniel; Edwards, Erick; Stravitz, R.; Kauffman, H. *Liver Transplantation*; June 2009.

Article: "Donor Livers with Steatosis are Safe to Use in HCV-Positive Recipients." Burra, Patrizia; Loreno, Massimiliano; Russo, Francesco; Germani, Giacomo; Galligioni, Alessandra; Senzolo, Marco; Cillo, Umberto; Zanus, Giacomo; Fagiuoli, Stefano; Ruge, Massimo. *Liver Transplantation*; June 2009.

Editorial: "Increased Donor Risk—Who Should Bear the Burden." Feng, Sandy. *Liver Transplantation*; June 2009.

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