Transplanted fatty livers associated with worse prognosis for patients with HCV

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A new study suggests that patients with hepatitis C (HCV) who need a liver transplant should not receive an organ with high levels of fatty deposits (a.k.a. hepatic steatosis). HCV recurrence was more frequent and earlier among those transplanted with such livers. These findings are in the January issue of *Liver Transplantation*, a journal published by John Wiley & Sons.

Recently, reports have revealed that survival rates among HCV-infected liver transplant recipients are decreasing. This is particularly troubling because HCV is the most common indication for liver transplantation in Western countries. In these places, the donor population is more likely to be overweight, and therefore more likely to have fatty livers. These organs are highly susceptible to cold or warm ischemia injury, leading researchers to hypothesize that liver steatosis may be affecting the outcomes for transplant recipients.

Researchers, led by Javier Briceño and Ruben Ciria of Cordoba, Spain, sought to determine the influence of donor liver steatosis on outcomes for HCV patients who received them. They included 120 patients who underwent liver transplantation as a result of HCV-cirrhosis between 1995 and 2005. Donor steatosis was categorized as absent (0-10 percent), mild (10-30 percent), moderate (30-60 percent) or severe (greater than 60 percent).

"Our results show a direct relationship between marginal donor, graft steatosis and a more frequent, severe and earlier viral recurrence after orthotopic liver transplantation for HCV-related cirrhosis," the authors report. Patient survival was significantly worse when graft steatosis was 30 percent or more.

Survival of the graft was inversely proportional to donor liver steatosis. After three years, graft survival was 72 percent for transplant recipients whose donor livers had no steatosis, 58 percent for mild, 43 percent for moderate and 42 percent for severe. The most profound decline in graft survival occurred when donor livers contained greater than 30 percent steatosis and were subjected to more than 12 hours of cold ischemic time.

The authors compared their results to outcomes of liver transplantations in individuals with alcohol-induced cirrhosis, as opposed to HCV. They found that donor steatosis greater than 30 percent did not reduce graft survival in these non-HCV patients.

"Further multicenter studies and a global consensus may be necessary to finally assess if the use of expanded criteria grafts is safe into HCV-positive recipients, as well as if nowadays the organ allocation system should need a change for this cohort of patients," they conclude.

An accompanying editorial by Mitchell Shiffman and Nevin Yilmaz of Virginia Commonwealth University Medical Center raises concerns about the study's conclusions. It points out that all patients did not undergo liver biopsies at specified time intervals, and there was not enough data on the patients with alcohol-induced cirrhosis to be sure that the populations were comparable.

Still, they were intrigued by the observation that the combination of donor graft steatosis and a prolongation in cold ischemic was associated with severe reperfusion injury.

"We strongly suggest that cold ischemia time should be limited when the donor graft contains greater than 30 percent steatosis and such grafts should only be utilized with caution for patients with chronic HCV," they conclude.

The article is available online at Wiley Interscience: www.interscience.wiley.com.

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