Obese donors increase risk of death for pediatric liver transplant recipients

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Children undergoing liver transplantation are at greater risk of graft loss and death from adult organ donors who are severely obese according to research published in the August issue of *Liver Transplantation*, a journal of the American Association for the Study of Liver Diseases. The study, funded in part by a grant from the National Institutes of Health (NIH), found that pediatric donor body mass index (BMI) did not increase mortality risk in this pediatric population.

Obesity is a global health concern. A 2008 report from the World Health Organization (WHO) estimates that 1.4 billion adults were overweight, and of these 200 million men and 300 million women were classified as obese. WHO also reports that more than 40 million children under the age of five were overweight in 2010. In the U.S., rates of being overweight or obese have risen in children and now exceed 30% say experts.

Prior research shows the prevalence of overweight and obese donors to adult liver transplant recipients has increased during the last two decades. "Donor BMI is associated with post-transplant obesity, but not survival rates of adult liver recipients," explains lead author Dr. Philip Rosenthal, from the University of California, San Francisco's Benioff Children's Hospital. "Our study is the first to evaluate the impact of donor BMI on pediatric liver transplant recipients."

Using data from the United Network for Organ Sharing (UNOS), researchers identified 3788 pediatric liver transplants between 2004 and

2010. Analysis indicates that adult donor BMI 25-35 kg/m2 was not associated with graft loss or mortality in pediatric liver recipients. However, adult donors with a BMI greater than 35 kg/m2 increased the risk of graft loss and death in children receiving livers, after adjusting for other recipient, donor, and transplant risk factors. The authors found that pediatric donor BMI was not associated with graft or patient survival.

"While we found it common for adult donors to be overweight or obese, our analysis suggests that BMI in the 25 to 35 range should not deter liver donation," concludes Dr. Rosenthal. The authors note that causes of graft loss, death, and donor steatosis could not be determined due to lack of donor biopsies. Rosenthal added, "Further research is needed to understand the impact of obesity on donor acceptability and how this affects pediatric liver transplant patients."

This study is published in Liver Transplantation.

More information: "An Evaluation of the Impact of Donor BMI on Survival and Post-Transplant Obesity in Pediatric Liver Transplant Recipients." Emily Rothbaum Perito, Sue Rhee, Dave Glidden, John Paul Roberts, Philip Rosenthal. *Liver Transplantation*; Published Online: July 24, 2012 (DOI: 10.1002/lt.23438) Print Issue Date: August, 2012.

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