

Improved outcomes in pediatric liver transplants don't have to mean higher cost

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(Medical Xpress) -- A Johns Hopkins Children's Center study of patients who received liver transplants from living donors has found that better outcomes need not come with a heftier price tag.

The study, published online ahead of print in the journal *Pediatric Transplantation*, looked at 52 children paired up with 53 living donors who underwent transplantation at Hopkins between 1992 and 2010. The researchers found steady improvements in survival rates and overall outcomes without a significant increase in healthcare spending.

More than 500 U.S. children receive [liver](#) transplants each year, and living donor transplants have become a mainstay in treating end-stage liver disease and a life-saving measure that reduces wait list time, the researchers say.

Five-year survival rates increased from 82 percent for patients transplanted between 1992 and 1995 to 100 percent for those who received transplants between 2001 and 2003. There were no donor deaths, and most complications among donors were minor. At the same time, the average annual spending for transplantation remained stable during the 18-year-study period, the researchers note. Adjusting for changes in the consumer price index, the study found that charges between 1992 and 2010 grew by a mere 3 percent.

Yet, because of the small number of patients followed over a long period, the research team cautions the results don't necessarily mean that

spending can be predictably and reliably contained in the future.

The investigators say that their findings, while encouraging, also underscore the urgent need to cut the substantial cost of liver transplantation. In the Hopkins study, the average annual cost of a transplant for biliary atresia was \$243,000, and the cost for transplants related to other liver conditions was \$184,000. Nationally, pediatric [liver transplants](#) consume an estimated \$77 million every year, a figure that represents 0.2 to 0.4 percent of all money spent on pediatric healthcare for a 0.0006 percent segment of the pediatric population.

“Our study shows that we are perfectly capable of performing safe and successful living donor transplants even in infants and very young children and we can do so without excessive and dramatic increase in spending,” says senior investigator Kathleen Schwarz, M.D., a pediatric hepatologist and director of the Pediatric Liver Center at Hopkins Children’s Center.

“Now that we know we can rein cost, we must explore strategies that cut spending further,” Schwarz adds.

One approach, the investigators say, could be weaning children off expensive immune-suppressive drugs, traditionally used for life to stave off organ rejection. Emerging evidence shows that many liver transplant recipients can be completely and safely weaned off such medications, the investigators say.

Two-thirds (39) of the children in the study received transplants to treat biliary atresia, a rare congenital disorder marked by bile duct destruction and progressive liver damage and the most common cause of end-stage liver disease in newborns and infants. The rest of the patients were treated for end-stage liver disease related to autoimmune hepatitis, hepatitis C infection or liver cancer.

Another encouraging finding: Increasingly better outcomes among biliary atresia patients who received transplants at age 1 year or younger. Notably, such cases also consumed the least healthcare dollars, the researchers found. In the nascent years of pediatric liver transplantation, physicians avoided transplanting infants under 1 year of age because of their fragility and poor outcomes.

“Our findings show that liver transplants can be done well, safely and cost-effectively in those under 1 year of age,” says study investigator Wikrom Karnsakul, M.D., a pediatric liver specialist at Hopkins Children’s Center.

Provided by Johns Hopkins University

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