Patient survival not impacted by liver transplants performed at night or on weekends

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A new study, funded in part by a grant from the National Institutes of Health (NIH), shows that liver transplants performed at night or on weekends do not adversely affect patient or graft survival. Findings available in the May issue of *Liver Transplantation*, a journal published by Wiley-Blackwell on behalf of the American Association for the Study of Liver Diseases, demonstrate that safety measures in place are working to protect patients.

A 1999 report from the Institute of Medicine estimated that medical errors result in up to 98,000 deaths each year with costs as high as $29 billion annually. This report prompted the medical community to investigate ways to reduce medical errors and improve patient safety. Previous studies examining patient care at night and on weekends provided conflicting results.

"Organ transplants have been particularly scrutinized given that these procedures are often performed after-hours due to the timing of organ availability," explains senior author Dr. A. Sidney Barritt IV with the University of North Carolina in Chapel Hill. "Our study advances evidence by exploring whether time of day of the liver transplant affects patient outcomes."

The research team used the United Network of Organ Sharing (UNOS) database to identify 94,768 adult liver transplants reported to the Organ

Procurement and Transplantation Network (OPTN) between 1987 and 2010. Transplants that took place after 7 p.m. and before 7 a.m. where defined as nighttime operations. Procedures that occurred between 5 p.m. on Friday and 8 a.m. Monday were considered weekend operations.

Results from this retrospective study show patient survival at 30, 90 and 365 days for nighttime operations was 96%, 93%, and 86%; weekend transplants rates were 95%, 92%, and 86%, respectively. Researchers found that patient survival rates for after hours and weekend transplants were similar to daytime and weekday operations. For weekend transplants, the graft failure rate was unchanged at 30 and 90 days, but increased slightly at 365 days. The team noted that graft survival was unaffected by nighttime transplant.

"Our findings confirm that patients undergoing liver transplants after hours or on weekends benefit from similar survival outcomes as those having procedures during a standard workday," said Dr. Barritt. "It is reassuring to patients and transplant specialists to see that patient outcomes are not affected by the timing of the transplant."

The authors, including Drs. Orman, Hayashi, Dellon and Gerber, all from UNC, attribute safety procedures, such as appropriate staffing for night and weekends, for the positive effect on patient outcomes, and suggest further research exploring specific time of transplants and available personnel is needed to remain vigilant of outcomes with off-hour transplants.

More information: "The Impact of Nighttime and Weekend Liver Transplants on Graft and Patient Outcomes." Eric S. Orman, Paul H. Hayashi, Evan S. Dellon, David A Gerber and A. Sidney Barritt IV. *Liver Transplantation*; Published Online: April 22, 2012 (DOI: 10.1002/lt.23395) Print Issue Date: May 2012.

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