UNOS Researchers Present Studies at ATC

Annual gathering held May 1–5 in San Diego

Seven studies for which UNOS researchers were the primary author were presented orally or at poster sessions at this year's American Transplant Congress (ATC). A joint meeting of the American Society of Transplant Surgeons and the American Society of Transplantation, ATC was held May 1–5 at the San Diego Convention Center.

A summary of those studies is below, with UNOS researchers' names in bold.

Association of discharge maintenance immunosuppression with posttransplant diabetes mellitus (PTDM) in adult recipients of primary kidney transplants

Wida S. Cherikh, Ph.D., Robert A. Metzger, M.D., Stephen Arcona, Ph.D., Allan D. Kirk, M.D., Ph.D.

Posttransplant diabetes mellitus (PTDM) is a major complication after kidney transplantation and has been associated with immunosuppressant drugs given to recipients to combat organ rejection. The researchers studied adult recipients of deceased and living donor transplants between 2004 and 2007 who had not previously been diagnosed with diabetes to determine how various immunosuppressive therapies at hospital discharge were associated with PTDM. They also studied the risk of PTDM associated with certain medical characteristics of the recipient.

The use of tacrolimus vs. cyclosporine was associated with a 53 percent increased risk of PTDM. In addition, use of steroidal immunosuppression was associated with a 66 percent increased risk of PTDM vs. non-steroidal treatment. The authors concluded that clinicians should carefully assess the type of discharge maintenance immunosuppression for recipients, particularly those recipients with individual medical characteristics that put them at greater risk for developing the condition.

Broader liver sharing in Region 8: A two-year experiment

Erick B. Edwards, Ph.D., Sarah E. Taranto, Harvey Solomon, M.D., W. Kenneth Washburn, M.D.

OPTN/UNOS Region 8 has established an alternate allocation system to offer livers from adult deceased donors for local or regional candidates with a MELD or PELD score of 29 or higher before any less-urgent candidates. The authors examined data for two-year periods before and after the system's implementation to assess its performance on key measures.

Despite increasing demand for liver transplantation within the region during the study period, the overall pretransplant mortality rate was unchanged under the new system. More transplants were performed in higher-MELD recipients after the system was put in place, with modest increases in median travel distance for the organ and in cold ischemia (organ preservation) time. Posttransplant graft and patient survival rates increased slightly despite the increase in transplants for sicker recipients.

Comparison of interleukin-2 receptor antibody induction with polyclonal antibody induction on outcomes in adult recipients of primary deceased and living donor kidney transplants

Wida S. Cherikh, Ph.D., Robert A. Metzger, M.D., Allan D. Kirk, M.D., Ph.D.

In recent years, an increasing number of kidney transplant recipients have received antibody induction therapy as part of their posttransplant treatment to help prevent organ rejection. The researchers, in studying adult recipients of primary living and deceased donor kidney transplants from 2000 to 2007, compared graft and patient survival for those who received no induction therapy, interleukin-2 receptor (IL-2R) antibody induction or polyclonal antibody induction.

For recipients of deceased donor kidney transplants, induction therapy yielded no significant difference in graft or patient survival. In recipients of living donor kidney transplants, IL-2R induction was associated with improved graft survival compared to recipients with either no induction or polyclonal induction; IL-2R as compared to no induction also was associated with improved patient survival in living donor recipients.

Donation after cardiac death (DCD) lung donors transplant outcomes

John D. Rosendale, Leah B. Edwards, Ph.D.

A small proportion of deceased lung donors become donors after cardiac death (DCD) as opposed to brain death. The authors studied the characteristics and short-term outcomes of lung transplants from DCD donors from January 2004 through June 2009.

While still a rare occurrence, more DCD lung transplants occurred in the last 18 months of the study period than in the four preceding years. Patient survival rates at one and six months posttransplant were not significantly different between recipients of lungs from DCD donors as opposed to brain death donors; thus the researchers conclude the use of lungs from DCD donors has the potential to increase the number of lungs available for transplantation.

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Double-verification of blood type A subgrouping for organ donors: How much could it increase patient safety?

Darren E. Stewart, M.S., Christopher F. Bryan, Ph.D., Richard D. Hasz, M.F.S., **Gloria J. Taylor, M.A., RN, CPTC**

Donors who are blood type A can have a blood type subgroup that is compatible with transplant recipients of other blood types; however, misidentification of the subgroup may lead to organ rejection. The researchers analyzed living and deceased donor kidney transplants between July 2004 and March 2009, involving a donor identified as a subgroup compatible with a blood type O or B recipient, to estimate the potential of hyperacute rejection due to subgroup misidentification.

The trend of subgroup-compatible transplants is increasing, with 81 occurring in 2008. The authors calculate an expected error rate of 3.5 percent if the donor is typed only once for a compatible subgroup. If two independent tests are performed (as recently required by OPTN policy for living donors), the estimated error rate drops to 0.032 percent per donor, or one expected event every 30 years.

Living kidney donor characteristics and short-term donor complications

Jennifer L. Wainright Ph.D., Leah B. Edwards, Ph.D., Maureen A. McBride, Ph.D., Robert A. Metzger, M.D.

More than one third of all kidney transplants in the United States are made possible by living donors. In recent years, concerns have been raised that evolving evaluation standards and shifts in donor demographics may result in poorer outcomes for donors. The study group evaluated nearly 56,000 living kidney donors from 2000 through 2008 to examine changes in donor characteristics and any effect they may have on short-term donor outcomes.

While the median age of living kidney donors remained at about 40, the percentage of donors age 50 or older increased over time. The majority of living kidney donors is female, but the proportion has also grown over time; while more rare, the rate of living kidney donors with a body mass index (BMI) greater than 30 also increased over the study period.

Transplant centers reported 2.6 percent of donors with short-term complications in 2005 and 3.2 percent with short-term complications in 2008. Factors associated with a higher probability of complications included older donor age, high BMI, left kidney donation and history of smoking. Factors associated with lower probability of complications were higher volume of living kidney donation at the transplant center and donors of Hispanic ethnicity. The authors recommend that the risk factors be considered carefully in donor screening.

Rates of transplant and recurrence in patients with hepatocellular carcinoma (HCC)

Ann M. Harper, Erick B. Edwards, Ph.D., John P. Roberts, M.D., Richard B. Freeman, M.D.

Hepatocellular carcinoma (HCC) is a form of liver cancer that can be successfully treated with a timely liver transplant. Candidates with HCC who meet certain criteria for the number and size of tumors may receive higher allocation priority than their calculated MELD or PELD score would indicate. The authors reviewed liver transplant candidates from 1998 through June 2009 who were identified as having HCC, and they focused on recipients reported to have a recurrence of the disease posttransplant.

Since the adoption of MELD/PELD scores, 837 liver recipients out of nearly 11,000 with HCC were reported to have a recurrence. The stage of HCC at the time of transplant was associated with increasing rates of recurrence; the rates were considerably higher for patients with stage 3 or higher HCC, suggesting that transplant programs carefully consider the risk of recurrence when selecting these candidates for transplantation. U

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MORE ON SECURE E-MAIL

As you read in the March–April *Update* (p. 28), UNOS' department of evaluation and quality (DEQ) has recently pilot-tested the use of secure e-mail — instead of slower and less-secure certified mail. Pending approval by the OPTN/UNOS executive committee and board of directors, later this summer DEQ will use secure e-mail for much of its correspondence with OPTN members, including — but not limited to — allocation and site survey-related correspondence.

ONLINE For detailed information and instructions on how to use secure e-mail, visit the policy compliance/patient safety category of the UNOS member archive at *http://communication.unos.org*.