
American Transplant Congress

May 31 – June 4, 2008

Abstract Title: Underutilization of Kidneys From Deceased Donors Older Than Age 70

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Body: Since 2000, despite the shortage of kidneys from deceased donors for transplantation, only about 100 kidney transplants each year were performed with donors older than age 70. Kidneys from these older donors represent only 6% of

those allocated in the United States as expanded criteria donors. In this study, we examine how these kidneys might be optimally utilized.

Methods: This retrospective examination of 9,580 recipients of expanded criteria donor (ECD) kidney-only transplants performed during 2000-2007 and reported to the Organ Procurement Transplant Network excluded those with dual and enbloc procedures. Outcomes for recipients of donors age 50-59 and ≥ 70 compared to a reference group of donors age 60-69 were stratified by recipient age and expressed as hazard ratios (HR) after adjusting for recipient and donor covariates using Cox proportional hazards.

Results: 26% of ECD kidneys were transplanted to recipients younger than age 51, 31% to age 51-60, 18% to 61-65 and 25% to recipients older than age 65. The table below shows the hazard of graft loss (GL), functional graft loss (FGL) censoring death, and death (Dth). Compared to kidneys from donors age 60-69, recipients younger than 51 were about 25% less likely to die or lose an ECD kidney from a donor aged 50-59 and 70% more likely with kidneys from donors older than 69. A similar trend was seen with older recipients, but the risks seemed to be lower.

Logistic regression indicates recipients older than age 65 were 5 times more likely to have a donor older than age 70 than recipients younger than 50, hypertension and creatinine >1.5 were less likely in older donor kidneys. Interestingly, the use of these kidneys relative to the total number of ECD kidneys has decreased since 2002 (Odds ratio=0.63, 0.53-0.76, $P<0.001$).

Conclusion: An increase in the supply of kidneys might be achieved with increased utilization from deceased donors older than age 70. Outcomes were

similar to those from donors age 60-69 in recipients that were older than age 50.