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Abstract Title: Clinical Outcomes Associated with Simultaneous Heart-Kidney Transplantation

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Body: The 20-60 simultaneous heart-kidney (SHK) transplants performed in the United States every year provide a unique setting for comparing transplant care provided by nephrologists and cardiologists. This study examines rates of heart and kidney rejection and graft loss in the thoracic and kidney analytic files provided by the Organ Procurement Transplant Network.

Methods: A total of 346 SHK, 19,832 heart-only and 150,197 kidney-only deceased donor recipients transplanted during 1997-2006 were included in this study. Rates of steroid or antibody-treated rejection and graft loss as a function of time after transplantation were calculated by Kaplan-Meier product limit and Cox proportional hazards with adjustment for recipient and donor confounders.

Results: The figure below indicates recipients of SHK transplants (open symbols) had lower rates of rejection when compared to heart (square) or kidney (diamond) recipients. Survival rates were initially higher for kidney recipients with rates for SHK similar to heart recipients. The hazard ratio (HR) for graft loss was higher for SHK recipients compared to kidney, but lower when compared to heart recipients. The lower hazard for SHK in heart allografts might be attributed to risk associated with pretransplant dialysis (HR=4.09, 3.81-4.39, P<0.001). Approximately 10% (2,122) of cardiac transplant recipients initiated dialysis prior to transplantation.

The differing rates of SHK rejection observed in the heart and kidney analytic files might be attributed to susceptibility or treatment of heart and kidney allografts, rejection monitoring or reporting.

Conclusion: Retrospective examination of data provided to the OPTN indicates simultaneous heart-kidney transplantation seems to be effective for cardiac

transplant candidates who require dialysis.