

Waitlist and Transplant Outcomes in Organ Donation After Circulatory Death: Trends in the United States

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Objectives: Organ donation after circulatory death (DCD) has expanded the donor pool for transplantation. This study analyzed waitlist and transplant outcomes in DCD kidney, liver, lung, and heart transplant in the US.

Methods: The UNOS registry was used to identify transplant candidates and recipients of kidney, liver, lung, and heart transplant. Transplant candidates were grouped by donor acceptance criteria for DCD versus brain-dead donors (DBD) only. Competing-risks regression was used to model waitlist outcomes among propensity-matched candidates. Post-transplant survival among propensity-matched recipients was modeled using Kaplan-Meier and Cox regression analysis.

Results: DCD transplant volumes have increased significantly since 1995. Liver transplant candidates listed for DCD organs were more likely to undergo transplantation compared to propensity-matched candidates listed for DBD only (Figure). Candidates for DCD heart and liver transplant were less likely to experience death or waitlist inactivation compared to those listed for DBD only. Propensity-matched DCD organ recipients demonstrated an increased risk for 1-, 3-, and 5-year mortality after liver and kidney transplant and 1- and 3-year mortality after lung transplant. There was no difference in 1-year mortality between recipients of DCD versus DBD heart transplant.

Conclusions: DCD continues to expand access to transplantation. Waitlist outcomes are improved for liver and heart candidates listed for DCD transplant. Competition for DCD kidneys and low utilization of DCD lungs may diminish improvements in waitlist outcomes. Despite increased mortality risk for all DCD transplants except heart, survival remains acceptable. Continued expansion of DCD transplant is justified.

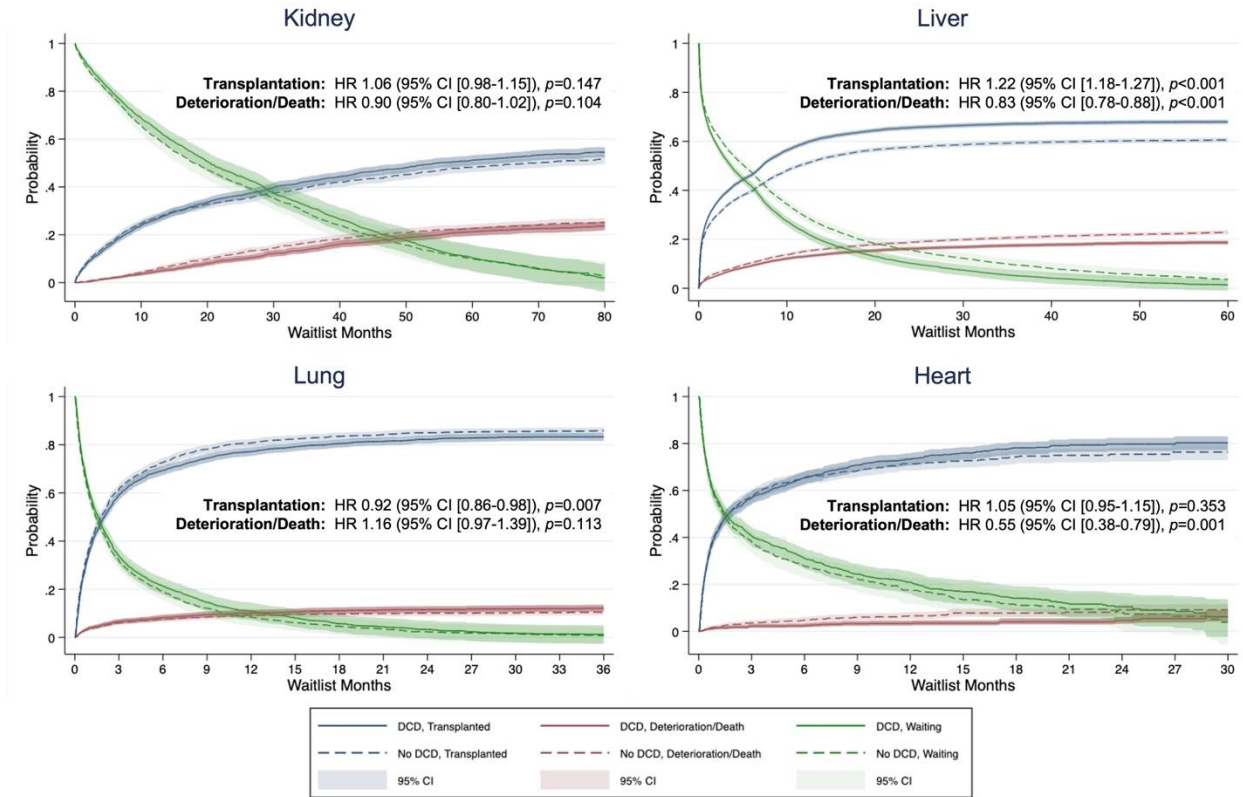


Figure. Cumulative incidence of waitlist outcomes among propensity-matched patients awaiting kidney, liver, lung, and heart transplantation, grouped by those with donor criteria listed for donation after circulatory death (DCD) organs versus those listed for non-DCD organs only. Competing outcomes included transplantation, death or clinical deterioration requiring waitlist inactivation, and waitlist inactivation for other reasons (not pictured).