

Reduce Discard of Kidneys for Transplantation after Brain Death using Repair Biomarkers

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Technology description

Unmet Need

The prevalence of end-stage renal disease (ESRD) is predicted to rise sharply over the next few decades due to an aging population and an increased incidence of diabetes and hypertension. ESRD patients that receive a kidney transplant have improved outcomes compared to patients that remain on dialysis; however, of the 100,000 dialysis patients on the waitlist for a kidney transplant, only approximately 12,000 patients will receive a kidney, and the typical wait time is 3-4 years. Despite the urgent need for kidneys, about 2,500 kidneys will be discarded from deceased donors each year due to an inability to predict outcomes for these kidneys using current clinical models. There is a need in the field for a clinical strategy to reduce the discard of deceased donor kidneys and to allocate viable kidneys to patients on the waitlist.

Technology Overview

Researchers at Johns Hopkins have discovered a ratio of urine biomarkers that is highly correlated with transplant outcomes, including donor acute kidney injury, recipient death-censored graft failure (dcGF), and all-cause graft failure. Extrapolated nationally, utilization of this ratio to identify viable kidneys from deceased donors could save over 1000 kidneys each year.

Institution

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