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Landmark study reveals survival limits of kidney transplantation in older and high-risk patients

(Vienna, Austria, Thursday 5 June 2025) A major international study, being presented today at the 62nd ERA Congress, reveals that the long-accepted survival advantage of deceased-donor kidney transplantation does not extend equally to every patient and every donor organ.[1,2]

A large-scale analysis, drawing on data from the European Renal Association (ERA) Registry, examined five-year survival outcomes in 64,013 wait-listed adults across Catalonia, Denmark, France, Norway, and the UK who began dialysis between 2000 and 2019. Using a robust target trial emulation (TTE) framework designed to mirror the structure of a randomised clinical trial, the researchers compared long-term survival between those who received kidney transplants and those who remained on dialysis.

“TTE allowed us to eliminate many of the biases that have clouded older registry studies and get as close as ethically possible to a randomised clinical trial,” explained lead author Dr Rachel Hellemans. “We found that transplantation with standard-criteria kidneys still offers a clear survival benefit at virtually every age, but in the oldest, most comorbid recipients receiving lower-quality organs, that edge can all but disappear.”

The data showed a consistent survival advantage with standard-criteria donor kidneys – those from donors under 60 without significant risk factors for poor kidney function – regardless of recipient age or underlying health conditions.[3]

However, the picture is less clear with expanded-criteria donor (ECD)* kidneys, including organs from older donors or those with risk factors that may affect kidney quality.[3] Among patients aged 75 and older, five-year survival rates were around 57–58%, only slightly higher than the 54% seen in patients who remained on dialysis. This was particularly the case for those with cardiovascular disease or those receiving kidneys from donors after circulatory death.

A key factor behind these findings is the higher early post-transplant mortality observed in high-risk patients. “The first few months after surgery are the most unpredictable window,” noted Dr Hellemans, “when frailty, surgical risk, and intensified immunosuppression can override the long-term gains seen in lower-risk groups.”

The director of the ERA Registry, Dr. Vianda Stel added, “The breadth of data we could access via the ERA Registry showed that the survival advantage of a transplant plateaus for the very oldest or highest-risk patients who are likely to receive an expanded-criteria or circulatory-death donor kidney. This arms clinicians with guidance to have informed discussions with their patients. The message isn’t ‘don’t transplant older people.’ It’s ‘be open about uncertainty when the numbers say benefit may be marginal.’”

ENDS

Notes to editors:

A reference to the ERA Congress must be included in all coverage and/or articles associated with this study. For more information or to arrange an expert interview, please contact press@era-online.org

***Expanded-criteria donor (ECD) kidneys:**

ECD kidneys are those either from a brain-dead donor ≥60 years of age, or a donor 50 to 59 years of age with at least two of the following features: a history of hypertension, terminal serum creatinine > 1.5 mg/dL (133 mmol/L), or cerebrovascular cause of death.[4]

About the lead study authors:

Prof. Dr. Hellemans is a clinical researcher and nephrologist at the Antwerp University Hospital, Belgium. Her work focuses on clinical and epidemiological research in kidney transplantation. Prof. Dr. Hellemans works closely with the ERA registry and is a board member of the ERA Descartes working group. She has written numerous peer-reviewed papers in the field of kidney transplantation.

Dr. Stel is associate professor of kidney disease epidemiology at Amsterdam UMC, University of Amsterdam, and the director of the ERA Registry. For over 20 years, she has spearheaded global initiatives to gather, compile, and evaluate renal replacement data, resulting in the yearly ERA Registry reports and numerous peer-reviewed scientific publications.

About the European Renal Association (ERA):

With more than 28,000 active members, the ERA is one of the biggest nephrology associations worldwide leading European nephrology, and one of the most important European medical associations. It organises annual congresses and several educational and scientific activities. The ERA also collects data and performs epidemiological studies through its ERA Registry. The Society supports fellowships and educational/research projects through its committees and working groups. Its publications are NDT, CKJ (Open Access journal), and the ERA Neph-Manual, an e-book hosted on the ERA e-learning platform.

Website: www.era-online.org

The 62nd ERA Congress takes place between June 4-7, both virtually and live in Vienna, Austria.

References:

1. Hellemans R., Chesnaye N., Kramer A., Stel V.S. Exploring the Margins of Survival Benefit in Deceased Donor Kidney Transplantation: An International Target Trial Emulation. Presented at ERA Congress 2025; 5 June 2025; Vienna, Austria.
2. Clin Kidney J. 2024 Dec 12;18(2):sfae405. doi: 10.1093/ckj/sfae405.
3. Port FK, Bragg-Gresham JL, Metzger RA, et al. Donor characteristics associated with reduced graft survival: an approach to expanding the pool of kidney donors. Transplantation 2002;74:1281-6.