

ACUTE DIALYSIS RISK IN LIVING KIDNEY DONORS

Dr. Ngan Lam¹, Ms. Anjie Huang², Dr. Liane S. Feldman³, Dr. John S. Gill⁴, Dr. Martin Karpinski⁵, Dr. Joseph Kim⁶, Dr. Scott W. Klarenbach¹, Dr. Greg A. Knoll⁷, Dr. Krista L. Lentine⁸, Dr. Chris Y. Nguan⁴, Dr. Chirag R. Parikh⁹, Dr. G.V. Ramesh Prasad¹⁰, Dr. Darin J. Treleaven¹¹, Dr. Ann Young, Dr. Amit X. Garg¹¹

¹University of Alberta, Edmonton, AB, Canada, ²Institute for Clinical Evaluative Science, Toronto, ON, Canada, ³McGill University, Montreal, QC, Canada, ⁴University of British Columbia, Vancouver, BC, Canada, ⁵Transplant Manitoba, Winnipeg, MB, Canada, ⁶Toronto General Hospital, Toronto, ON, Canada, ⁷Ottawa Hospital Research Institute, Ottawa, ON, Canada, ⁸Saint Louis University, St. Louis, MO, USA, ⁹Yale University, New Haven, CT, USA, ¹⁰St. Michael's Hospital, Toronto, ON, Canada, ¹¹McMaster University, Hamilton, ON, Canada

BACKGROUND: Reduced kidney function confers a higher risk of acute kidney injury at the time of an inciting event, such as sepsis. Whether the same is true in those with reduced renal mass from living kidney donation is unknown.

METHODS: We conducted a population-based matched cohort study of all living kidney donors in the province of Ontario, Canada who underwent donor nephrectomy from 1992 to 2009. We manually reviewed the medical records of these living kidney donors and linked this information to provincial healthcare databases. Non-donors were selected from the healthiest segment of the general population.

RESULTS: There were 2027 donors and 20,270 matched non-donors. The median age was 43 years (interquartile range, 34 to 50) and individuals were followed for a median of 6.6 years (maximum 17.7 years). The primary outcome was acute dialysis during any hospital stay. Reasons for hospitalization included infectious diseases, cardiovascular diseases, and hematological malignancies. Only one donor received acute dialysis in follow-up (6.5 events per 100,000 person years), a rate which was statistically no different than 14 non-donors (9.4 events per 100,000 person years).

CONCLUSIONS: These results are reassuring for the practice of living kidney donation. Longer follow-up of this and other donor cohorts will provide more precise estimates about this risk.