

Selection and Short-Term Outcomes of Living Kidney Donors in Singapore – An Analysis of the Donor Care Registry

Marc ZJ Ho,^{1,2} MBBS, MPH, Huili Zheng,³ BSc (Stats), MSc (Stats), Jeannette JM Lee,¹ MBBS (Hons), B Med Sci, MD (Epi), Khuan Yew Chow,³ MB BCh (Ire), MMed (Public Health), Gek Hsiang Lim,³ BSc (Statistics), MSc, Wei Wei Hong,¹ MBBS, MPH, Anantharaman Vathsala,⁴ MD, FRCP, FAMS

Abstract

Introduction: Transplant rates in Singapore have been falling and there is limited information on baseline characteristics and clinical outcomes of living kidney donors nationally. This study aimed to determine the safety of living kidney donor transplant in Singapore by exploring the proportion of donors that meets international selection guidelines and describing short-term clinical outcomes. **Materials and Methods:** We analysed 472 donors who underwent nephrectomies from 1 January 2010 to 31 December 2014 from the Donor Care Registry. We described donor characteristics against 5 international guidelines and measured post-nephrectomy outcomes in 150 local donors for up to 24 months. A multivariate analysis was performed to determine the baseline variables associated with poorer outcomes. **Results:** There were more foreign than local donors, with differences in gender and hospital types. Selection was generally aligned with international recommendations although 3.0% (using the Chronic Kidney Disease Epidemiology [CKD-EPI] equation) to 8.5% (using radionuclide and creatinine clearance methods) of donors had inappropriate baseline estimated glomerular filtration rates (eGFR) for age. Post-procedure, many foreign donors were lost to follow-up. Over 24 months, eGFR decreased by 33.8% from baseline before recovering gradually to 29.6%. During this period, only 2 donors were admitted for renal or urological conditions and there were no cases of end-stage renal failure or deaths. A lower baseline eGFR (HR: 1.05; 95% CI, 1.02 to 1.09) and older age (HR: 1.04; 95% CI, 1.00 to 1.08) were associated with a post-nephrectomy eGFR of less than 60 mL/kg/1.73 m². **Conclusion:** Kidney donation is safe in Singapore. Donor selection is in keeping with international guidelines and short-term outcomes are comparable to other cohorts.

Ann Acad Med Singapore 2017;46:424-32

Key words: Guidelines, Nephrectomy, Renal, Safety

¹Ministry of Health, Singapore

²Saw Swee Hock School of Public Health, National University of Singapore, Singapore

³National Registry of Diseases Office, Health Promotion Board, Singapore

⁴National University Centre for Organ Transplantation, National University Hospital, Singapore

Address for Correspondence: Dr Marc Ho Zheng Jie, 16 College Rd, College of Medicine Building, Singapore 169854.

Email: marchozj@gmail.com