Change in allocation pattern of pediatric brain-dead donor kidneys following implementation of new allocation policy with pediatric priority

Sanghoon Lee

Division of Pediatric Surgery, Department of Surgery, Samsung Medical Center, Seoul, Korea

Background: The Organ Transplantation Act of Korea was amended in October 2018 to grant more priority to pediatric patients on the kidney waitlist. The amended decree states that one kidney from brain-dead donors under age 19 years (previously age 11 years) must be initially allocated to a waitlisted patient under age 19 years. This aim of this study was to analyze the change in allocation patterns of kidneys from pediatric recipients following implementation of the new policy.

Methods: Data was extracted from the KONOS database and included donor and recipient information of kidney transplants from pediatric donors (age <19 years) from October 2014 to September 2020.

Results: There were 2,958 brain-dead donors from October 2014 to September 2020. One hundred and sixty-three donors were under age 19 years (163/2,958, 5.5%). The study period was divided into two periods: before policy change (October 2014 to September 2018) and after policy change (September 2018 to September 2020). The proportion of donors under age 19 years was not different between the two periods (5.9% vs. 4.4%). Two hundred and fifty-six kidneys from 163 pediatric donors were allocated to waitlist patients. The proportion of kidneys allocated to recipients under age 19 years was significantly higher after policy change (59/65, 90.8%) compared to before policy change (28/191, 14.7%; $P<0.01$). The days on waitlist of adult recipients (age 19 or older) of pediatric donor kidneys were similar before and after policy change, while the days on waitlist of pediatric recipients significantly increased. However, the days on waitlist of pediatric recipients were significantly shorter than adult recipients, both before (670.0 ± 472.2 days vs. $2,038.0\pm801.4$ days, $P<0.01$) and after (929.4 ± 451.5 days vs. $1,620.0\pm942.1$ days, $P<0.01$) policy change.

Conclusions: A sharp increase in proportion of pediatric kidney recipients from pediatric donors was observed following implementation of amended allocation policy in October 2018.

Corresponding author: Sanghoon Lee

E-mail: 4hooni@gmail.com

© The Korean Society for Transplantation

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.