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뇌사 장기기증자 관리와 뇌사 신장이식의 성적

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Management of Deceased Donors and Outcomes of Deceased Donor Kidney Transplantation

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Background: Recently, deceased donor transplantation has been activated in Korea; however, discrepancy between need and supply is still increasing. Therefore, optimal management for potential deceased donors is important for maximizing organ recovery. Here, we investigated the current status of potential donor management, and outcomes of deceased donor kidney transplantation (DDKT).

Methods: We retrospectively analyzed management of deceased donors for whom organ procurement activity and medical management were performed at Seoul National University Hospital (SNUH) from 2003 to 2014. Outcomes of DDKT where donor kidneys were harvested from SNUH, were compared with outcomes of DDKT using donor kidneys from outside hospitals.

Results: Among a total of 592 contacts to SNUH, 482 (81.4%) were calls from outside hospitals. Among them, 233 (39.4%) potential deceased donors were transferred to the SNUH. The mean age was 44.3±17.0 years, and 149 (64.8%) were male. Hypertension was detected in 64 (27.8%) patients, 15 (6.5%) had diabetes mellitus, and 78 (33.9%) were smokers. The most common cause of brain death was cerebrovascular accident (49.3%), followed by traumatic brain injury (26.7%), hypoxic brain injury (19.5%), and others. Most patients (97.2%) needed inotropics. Among 233 potential donors, 205 patients could provide organs for transplantation, yielding 88.0% donor conversion rate. A total of 659 organs were recovered from 205 donors, consisting of 64 hearts, 40 lungs, 175 livers, 355 kidneys, 23 pancreases, and 1 intestine. The mean number of organs transplanted per donor (OTPD) was 2.8±1.6. Among deceased kidney donors, 25.8% belonged to expanded criteria deceased donors (ECD). Interestingly, the proportion of ECD has increased, and number of OTPD has decreased in parallel. Among 499 DDKT patients in SNUH, 226 received kidneys from SNUH and 273 received kidneys from other hospitals. Donors from SNUH have shorter cold ischemic time and higher proportion of ECD. Peak level of serum creatinine before DDKT and serum creatinine levels at 3, 6, 9, 12 month after DDKT were higher in donors from SNUH. However, there was no significant difference in either patient or graft survival between the two groups.

Conclusions: As DDKT is activated in Korea, ECD is increasing, and therefore optimal management of potential deceased donors is important for maximizing organ procurement and improving outcomes of DDKT.

Key Words: 뇌사 기증자, 신장이식, 확대공여자
Deceased donor, Kidney transplantation, Expanded criteria donor