

## 공여자 크레아티닌 청소율 감소와 동종신이식 예후와의 관련성

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### Association between a Decline in Donor Creatinine Clearance and Allograft Outcomes

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**Background:** Development of compensatory hypertrophy of the solitary kidney and alterations of allograft kidney function following kidney transplantation (KT) has well been documented. It is conceivable that the given allograft function in recipients may be related with the remnant kidney function in donors. This study was undertaken to find whether the degree of decline in donor creatinine clearance (CrCl) after KT may be predictive of long-term outcomes of allograft kidneys.

**Method:** The decline in creatinine clearance of donor kidney was calculated by the difference over 30 days after KT:  $\Delta\text{CrCl} = (\text{CrCl at post-KT 30 days} - \text{CrCl at Pre-KT}) / \text{CrCl at Pre-KT} \times 100$  (%). All recipients were divided into 2 groups according to  $\Delta\text{CrCl}$ : Group I (n = 74),  $<0$  and  $\geq -30\%$ ; and Group II (n=71),  $<-30$  and  $\geq -60\%$ . Multiple linear regression analysis was used to find associated factors with short- and long-term renal allograft function, and Kaplan-Meier (KM) analysis was used to compare dialysis-free survival between the groups.

**Results:** A total of 139 recipients was followed for  $132.6 \pm 64.6$  months. Three years after KT, Group I has a higher eGFR as compared with Group II ( $56.3 \pm 16.8$  vs.  $44.8 \pm 18.0$  mL/min/1.73m<sup>2</sup>,  $p < 0.05$ ). However, eGFR at 10 years' follow-up was not different between the groups. In multiple linear regression analysis, donor  $\Delta\text{CrCl}$  was significantly associated with the change in eGFR between 3 and 12 months posttransplant ( $\Delta\text{eGFR}_{12-3}$ ) and  $\Delta\text{eGFR}_{36-12}$ , but not  $\Delta\text{eGFR}_{120-12}$  of recipient kidney. KM analysis revealed that Group I had a greater dialysis-free survival rate at 10 years' follow-up as compared with Group II (81% vs. 64%, log-rank  $p < 0.05$ ). However, there was no difference in the eventual dialysis-free survival rate between the groups.

**Conclusion:** These results suggest that the short-term allograft survival is longer when the initial decline in donor CrCl is less. Follow-up measurement of donor kidney function may be useful to monitor the patient at risk for allograft loss.

**Key Words:** 신장이식, 크레아티닌 청소율, 예후

Kidney transplantation, Creatinine clearance, Outcome