

# KSN 2016 Abstract Submission

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### Clinical Outcome of Kidney Re-transplantation in Comparison With First Kidney Transplantation in Korea: Nationwide Cohort Study

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**Background:** Due to the limitation of the survival of kidney allograft, increasing number of patients need to take re-transplantation (re-KT) after the first allograft failure. In this study, we investigated the clinical characteristics and clinical outcomes of re-KT recipients in comparison with those of first KT using nationwide registry.

**Methods:** We retrospectively analyzed 4757 adult kidney transplant recipients registered in Korean organ transplantation registry database from 2009 to 2012. These cases were divided into 4 groups: first KT (n=2762) and re-KT (n=162) from living donor (LD), first KT (n=1647) and re-KT (n=186) from deceased donor (DD). We compared the clinical outcomes such as early or late biopsy-proven acute rejection and also allograft or patient survival rate across those groups.

**Results:** Out of total 4,757 kidney transplant recipients, 348 (7.5%) cases were re-KT. The proportion of DDKT and sensitized patients was significantly higher in re-KT group compared to first KT group (DDKT; 53.4% versus 37.4%;  $P < 0.05$ , sensitized patients; 21.6% versus 3.7%,  $P < 0.05$ ). Especially in LDKT, the proportion of ABO incompatible KT was higher in re-KT group than first KT group as well (18.5 % versus 12.5%;  $P < 0.05$ ). The incidence of early biopsy-proven acute rejection (BPAR) was significantly higher in re-KT group than first KT group in DDKT (19.4% versus 11.3%;  $P < 0.05$ ), but not in LDKT (7.4% versus 9.0%;  $P > 0.05$ ). Incidence of late BPAR was not significantly different between re-KT and first KT groups both in DDKT (0.6% versus 2.4%;  $P > 0.05$ ) and LDKT (1.6% versus 2.6%;  $P > 0.05$ ). In multivariate analysis, re-KT was an independent risk factor for development of early BPAR in DDKT (odd ratio, 1.724; 95% confidence interval, 1.10 to 2.67;  $P < 0.05$ ). However, allograft and patient survival rate were not significantly different between re-KT and first KT group in DDKT and LDKT ( $P > 0.05$ , for all).

**Conclusion:** Our study showed that overall clinical outcomes of re-KT was comparable to those of first KT irrespective of donor type.

**Keywords:** Acute rejection, Allograft survival, Kidney re-transplantation, KOTRY