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Hypertension Remission After Kidney Transplantation is Associated With Lower Graft Failure and Mortality Rates

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Objectives : Hypertension is commonly accompanied with advanced chronic kidney disease, and kidney transplantation (KT) can potentially ameliorate hypertension. The remission of hypertension after KT is expected in KT recipients with pre-transplant hypertension. However, the remission rate of hypertension and its prognostic impact on KT outcomes are unknown.
Methods : KT recipients (2006–2015) who had hypertension before KT were identified and categorized into the two groups based on their post-KT hypertension status: "persistent hypertension" and "hypertension remission", using data from Health Insurance Review & Assessment Service and Korea National Health Insurance System. Cox proportional hazard analyses were performed for death-censored graft failure and all-cause mortality.
Results : A total of 3,109 (27%) among 11,342 recipients with pre-transplant hypertension experienced hypertension remission after KT. Recipients with hypertension remission had a lower prevalence of delayed graft function and comorbidities, including diabetes, ischemic heart disease, and stroke, compared to those with persistent hypertension. Graft failure (incident rate[IR], 6.8 vs 12.0) and mortality rates (IR 5.5 vs 11.1) were lower in the hypertension remission group (per 1,000 person-years, log-rank P <0.001 for both) than the persistent hypertension group. The remission of hypertension was associated with 0.58-fold and 0.50-fold lower risks for graft failure and all-cause mortality, respectively, in unadjusted analyses. The adjusted hazard ratio of hypertension remission was 0.59 for graft failure and 0.59 for mortality compared to the persistent hypertension group after adjusting multiple covariates. There were significant interactions with sex for graft failure (stronger protection in females, P for interaction=0.045) and with diabetes status for mortality (weaker protection in recipients with diabetes, P for interaction=0.033).
Conclusions : A substantial fraction of recipients experience hypertension remission after KT. Hypertension remission is associated with better graft survival and overall patient survival, suggesting hypertension remission as an indicator for favorable outcomes in KT recipients.