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Renal allograft outcome from hypertensive donor: comparison between living and deceased donor

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Objectives: Donor shortage is a serious problem in renal transplantation, and hypertensive living donor is potential candidates to expand donor pool. However, it is not unclear that renal allograft outcome from hypertensive living donor is similar compared to normotensive living donor or deceased donor.

Methods: A total of 4311 renal transplant recipients from the Korea Organ Transplantation Registry (KOTRY) database were enrolled from Jul 2014 to Dec 2018. We tried to investigate the renal allograft survival rate and estimated glomerular filtration rate (eGFR) of renal transplant recipients from hypertensive living donor (n = 280), compared to those from living normotensive donor (n = 2723) and deceased donor with or without hypertension (n = 262 and n = 1046, respectively).

Results: Renal transplant recipients from hypertensive living donor exhibited significantly worse death-censored graft survival rate than those from normotensive living donor ($p = 0.028$). The allograft survival rate was not different between normotensive and hypertensive deceased donors ($p = 0.649$). In multivariate Cox-regression model, the renal allograft from normotensive donor was significantly associated with better survival rate compared to recipients from normotensive living donor (95% CI 0.18-0.91; $p = 0.028$). The recipients of hypertensive living donor did not show better graft survival rate compared to those of deceased donor with and without hypertension. The renal allograft from hypertensive donor was associated with lower eGFR than those from normotensive living and deceased donor without hypertension during entire follow up. The presence of donor proteinuria and more than 50 years-old recipients further increased the risk of renal allograft loss in hypertensive living donor transplantation. However, these relationships were not observed in hypertensive deceased donor transplantation.

Conclusions: Renal allograft from hypertensive living donor had increased the risk of renal allograft loss and associated with lower eGFR.