

## 이식 신 부피가 신장 이식 후 이식 신 기능에 미치는 영향

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### Impact of the Ratio of Graft Kidney Volume to Recipient Body Surface Area on Graft Function After Live Donor Kidney Transplantation

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Functioning nephron mass is a determinant of the graft function of kidney transplant recipients. The graft kidney volume and its weight have been reported to be surrogates of the nephron mass. To investigate the impact of the ratios of the surrogates to recipient body surface area (BSA) and body weight on the graft function within 6 months post-transplantation, we measured the graft kidney volume, using computed tomography with 3-dimensional reconstruction before transplantation, and measured the graft kidney weight during surgery. Ninety-four cases of live donor kidney transplants were included in this study. The graft kidney volume/recipient BSA ratio was correlated with the glomerular filtration rate (GFR) of recipients at 1 month and 6 months post-transplantation ( $r=0.416$ ,  $p<0.001$  and  $r=0.381$ ,  $p<0.001$ , respectively). We found a difference in the graft function between recipients with a graft kidney volume/recipient BSA ratio of  $\geq 90.9$  ml/m<sup>2</sup> and those with a ratio of  $<90.9$  ml/m<sup>2</sup> ( $p<0.001$ ). Multivariate analysis demonstrated that the graft kidney volume/recipient BSA ratio and donor age are independent predictors of recipient GFR at 1 month and 6 months post-transplantation ( $p<0.05$ ). During living donor and recipient matching, both the potential volume of the donated kidney and the body size of recipient should be considered.

**Key Words:** 이식신 기능, 신장 부피, 신장 이식  
Graft function, Kidney volume, Transplantation