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What is the optimal eGFR for favorable prognosis in renal transplant at postoperative 1 year?

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Background: One-year renal function after kidney transplantation (KT) according to the Kidney Disease: Improving Global Outcomes (KDIGO) chronic kidney disease (CKD) staging was reported to be associated with graft survival. However, the outcomes of KT are improving. Therefore, the distribution and prognostic value of 1-year estimated glomerular filtration rate (eGFR) in recently performed transplants were re-evaluated in this study.

Methods: We reviewed all patients who received KT between 2008 and 2011 at our institution, and followed them until June 2015. The distribution of 1-year eGFR, graft survival according to CKD staging, the cutoff level for a favorable prognosis, and the occurrence of rejection and infection were analyzed.

Results: A total of 758 patients were included in this study. Unlike previous studies, most patients (56.2%) were included in the CKD stage 2(eGFR 60-89) rather than stage 3(eGFR 30-59). In addition, the CKD stage 3a(eGFR 45-59) group showed better graft survival than the CKD stage 3b(eGFR 30-44) group. However, CKD stage 2 and CKD stage 3a groups did not show significant differences in graft survival. A postoperative 1-year eGFR of more than 45 ml/min showed a favorable outcome compared to that of less than 45 ml/min. One-year eGFR<45 ml/min, acute cellular rejection, antibody-mediated rejection, and CMV infection after 1 year were adjusted risk factors for graft failure.

Conclusion: A 1-year eGFR>45 ml/min may be the appropriate cutoff level for favorable outcomes in KT. In addition, KDIGO CKD staging may not be useful in recently performed KT.

Keywords: Glomerular filtration rate, Kidney Transplantation, Prognosis