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Outcomes of living donor kidney transplantation in diabetic patients: age and sex matched comparison with non-diabetic patients

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Background: Kidney transplantation (KT) reportedly provides a significant survival advantage over dialysis in diabetic patients. However, KT outcome in diabetic patients compared with that in non-diabetic patients remains controversial. In addition, owing to recent improvements in the outcomes of KT and management of cardiovascular diseases, it is necessary to analyze outcomes of recently performed KT in diabetic patients.

Methods: We reviewed all diabetic patients who received living donor KT between January 2008 and December 2011. Each patient was age- and sex-matched with two non-diabetic patients who received living donor KT during the same period. The outcomes of living donor KT were compared between diabetic and non-diabetic patients.

Results: Among 887 patients, 108 diabetic patients were compared with 216 non-diabetic patients. Graft survival was not different between the two patient groups ($P = 0.134$ by log rank test). The incidence of acute rejection was not different between the diabetic and non-diabetic patients. Urinary tract infection and other infections as well as cardiovascular events occurred more frequently in diabetic patients. However, diabetes, cardiovascular disease, and infection were not significant risk factors of graft failure. Acute rejection was the most important risk factor for graft failure after adjusting for DM, HLA mismatch, rejection and infection (hazard ratio, 30.112; 95% confidence interval, 6.591 - 137.564; $P < 0.001$). Mortality was not significantly different between diabetic and non-diabetic patients (0 vs. 2, $P = 0.340$ by log-rank test).

Conclusion: ESRD patients with DM had favorable outcomes with living donor kidney transplantation. The presence of DM, infection, and cardiovascular disease were not significant contributors of graft failure in patients with recently performed transplantation.

Keywords: diabetes mellitus, Kidney Transplantation