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공여자 유전적 변이가 이식신에 미치는 영향; stromal-derived factor-1

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Genetic Predisposition of Donors Affects the Allograft Outcome in Kidney Transplantation; Stromal-derived Factor-1 Polymorphism

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Background and Method : Genetic predisposition may be an important aspect to discern impending responses after transplantation. In this study, we evaluated the role of the genetic predisposition of SDF1 at the 3' untranslated region (G801A) on renal allograft outcomes. A total of 263 pairs of recipients and donors were enrolled. **Results :** SDF1 was differentially expressed in renal tissues with acute rejection according to genetic variations of donors showing higher expressions in the grafts from GG donors. Biopsy-proven acute rejection (BPAR) within 1 year and long-term graft survival were traced. Despite similar allele frequencies between donors and recipients, A allele from donors, not from recipients, has a protective effect on the development of BPAR (p=0.037). Adjustment for multiple covariates did not affect this result (OR 0.49, 95% C.I 0.26-0.91, p=0.023). However, patients who received AA homozygote grafts showed poor graft survival compared to recipients from GG or GA donors (p=0.009). This association was significant after adjusting for several risk factors (hazard ratio 3.14; 95% C.I=1.19-8.29; p=0.021). The allelic variation of recipients, however, was not associated with BPAR and graft loss.
Conclusion : A donor-derived genetic polymorphism of SDF1 has influenced the graft outcome. Thus, the genetic predisposition of donor should be carefully considered in transplantation.

Key Words : SDF-1, 이식신, 거부반응
Stromal-derived factor-1, Genetic predisposition, Allograft