

한국인 신장이식 환자에서 급성 거부반응 발생에 연관된 Solute carrier family 유전자 다형성 연구

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SNPs of Solute Carrier Family Genes Associated with Acute Renal Allograft Rejection in Korean Population

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Background: Solute carrier family has been reported to be associated with various kinds of renal diseases. Thus, we hypothesized that single nucleotide polymorphisms (SNPs) of the solute carrier family genes might have association with acute rejection of kidney transplantation(KT) in Korean population.

Methods: To investigate whether polymorphisms of solute carrier family genes are involved in the development of acute renal allograft rejection, we firstly selected 349 solute carrier family genes in NCBI gene database and searched the nonsynonymous SNPs on coding region in each genes. Finally we selected 4200 exonic SNPs. The genotypes of these SNPs were performed using Axiom™ genome-wide human assay. SNPStats and SPSS 18.0 were used for the analysis of genetic data. Logistic regression models were performed to determine odds ratio (OR), 95% confidence interval (CI), and p value.

Results: A total of 90 renal allograft recipients transplanted in Pusan Paik hospital. Acute rejection developed in 49 patients among them. Among 4200 SNPs of 349 solute carrier family genes, three SNPs (rs5036 in SLC4A1, rs11643718 in SLC12A3, and rs1047099 in SLCO4A1) only showed significant association with acute rejection ($p < 0.05$).

Conclusions: These results suggest that these significant SNPs (rs5036 in SLC4A1, rs11643718 in SLC12A3, and rs1047099 in SLCO4A1) may be associated with the susceptibility to the acute rejection in the KT patients of Korean population.

Key Words: 급성 신이식 거부반응, 단일 염기 다형성, 신장 이식
Acute renal allograft rejection, SNPs, Kidney transplantation