

## A Monocyte Chemoattractant Protein-1 (MCP-1) and Chemokine Receptor-2 (CCR-2) Polymorphism and Outcome after Renal Transplantation in Korean Population

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Among the factors modulating transplant rejection and cardiovascular disease, chemokines and their respective receptors deserve special attention. In this respect, increased expression of MCP-1 and the corresponding receptor CCR2 have been demonstrated in renal transplant rejection and coronary artery disease. The impact of the MCP-1-2518G and CCR2-64I genotypes on renal allograft function was investigated in 167 patients who underwent transplantation over a 25-yr period. Genomic DNA was genotyped using PCR with sequence-specific primers followed by restriction fragment length polymorphism analysis. Fifty five (32.9%) patients were homozygous for the MCP-1-2518G mutation. And nine (5.4%) patients were homozygous for the CCR-2 64I mutation. The G/G allele of MCP-1-2518 had no effect on kidney graft failure, as compared with the heterozygous (A/G) or wild-type (A/A) allele ( $89 \pm 67$  versus  $85 \pm 67$  mo; Log rank  $p=0.4783$ ). The 64I mutation of CCR2 had no effect on kidney graft failure ( $79 \pm 65$  and  $99 \pm 69$  mo, respectively;  $p=0.3185$ ). None of the investigated polymorphisms showed a significant shift in gene frequency in total acute rejection and rejection-free groups. But, Significant increases were found in risk of late acute rejection in recipients who were homozygous for MCP-1-2518G mutation (OR, 2.579; 95% CI, 1.088 to 6.116;  $p=0.037$ ). In conclusion, recipients of renal transplants homozygous for the -2518 G mutation of the MCP-1 gene are at risk for late acute rejection. This variant of MCP-1 may be a future predictor for late acute rejection in Korean population.