

POTENTIAL SIGNIFICANCE OF BRADYKININ 2 RECEPTOR GENOTYPING IN KIDNEY TRANSPLANT RECIPIENTS

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Bradykinin (BK), a vasoactive peptide, is considered to exert the renoprotective and cardioprotective effects. Furthermore, most of its effects are mediated by the activation of BK type 2 receptor (B2R), whose level of expression is influenced by insertion/deletion (+9/-9) gene polymorphism. The aim of this study was to investigate the potential influence of B2R +9/-9 gene polymorphism on kidney function and blood pressure in kidney transplant recipients (KTRs) within the first post-transplantation year. Secondary, the study analyzed the correlation between hypertensive status and graft function, with respect to the B2R +9/-9 gene polymorphism.

The pharmacogenetic study included 95 KTRs with clinical and biochemical parameters evaluated in three time-points (3rd, 6th, 12th month). The graft function was assessed using the estimated glomerular filtration rate (eGFR), while systolic (SBP), diastolic (DBP), and mean blood pressure (MAP) were used as parameters for the evaluation of blood pressure control.

The carriers of -9/-9 genotype had more stable graft function compared to both, heterozygotes and homozygous for +9 allele, not only in the early (up to 6 months) but as well in the late post-transplantation period (beyond 6 months). Also, the -9/-9 genotype carriers showed a tendency to significantly decrease MAP, SBP, and DBP in the observed period, whereby only in this patient group the significant association between hypertensive status and graft function was demonstrated.

In conclusion, genotyping of B2R +9/-9 gene polymorphism alongside with biochemical and clinical parameters may identify patients with respect to the risk of more prompt decline of graft function.

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