



## Polymorphism in the P-glycoprotein drug transporter MDR1 gene in renal transplant patients treated with cyclosporin A in a Polish population

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### Abstract:

P-glycoprotein (P-gp), the product of MDR1 gene, is a protein which mediates transmembrane transport of a great number of xenobiotics including cyclosporin A used as an immunosuppressive drug in patients with allogenic kidney grafts. The P-gp activity and expression is dependent on the MDR1 gene polymorphism in position C3435T of exon 26. In this study, C3435T polymorphism was analyzed in 116 patients with allogenic kidney graft treated with cyclosporin A and 144 randomly selected healthy individuals. The prevalence of MDR1 gene genotypes 3435CC, 3435CT, 3435TT were also compared in patients after allogenic kidney graft with both acute and chronic graft rejection (48 patients with acute and 76 with chronic graft rejection) and control groups (respectively 139 and 112). The results of the study demonstrated that the allelic frequency and MDR1 genotype distribution were similar in all evaluated groups. It was revealed that MDR1 gene polymorphism was not a predisposing factor for terminal kidney failure leading to renal transplantation. Moreover, evaluation of C3435T polymorphism of MDR1 gene will probably not be useful for characterization of groups of patients at increased risk of acute and chronic kidney graft rejection.

### Key words:

MDR1 gene, P-glycoprotein, polymorphism, renal transplantation

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