Abstract:
P-glycoprotein (P-gp), an ATP-dependent efflux pump, is a membrane protein encoded by MDR1 gene, which demonstrates functional polymorphism. It is present in endothelial cells of the blood-brain barrier. P-gp pays a role in transmembrane transport of various xenobiotics, thus limiting their accumulation in the central nervous system. Cyclosporine A which is used as an immunosuppressive drug in patients with allogenic kidney grafts is a substrate for P-gp. Cyclosporine A may cause neurotoxic adverse effects, among them tremor. It was assumed that polymorphism of MDR1 gene which is associated with change in P-gp activity plays a role in induction of tremor in some patients with allogenic kidney graft treated with cyclosporine A. A total of 118 unrelated posttransplant kidney patients were enrolled into the study. The tremor group included 23 cases and 95 randomly selected posttransplant individuals with no signs of tremor served as controls. No statistically significant correlation between MDR1 gene polymorphism C3435T and tremor was found. The tremor group and the control group were characterized by similar distribution of MDR1 genotypes, i.e. 3435CC, 3435CT, 3435TT.

Key words:
MDR1 gene, P-glycoprotein, polymorphism, kidney transplant, tremor