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The Pharmacogenetics of mycophenolate mofetil in tunisian renal transplant patients

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Aim: The effects of variants in IMPDH, UGT1A9, UGT1A8, UGT2B7 and SLCO1B1 genes on the efficacy and safety of mycophenolate mofetil (MMF) in the Tunisian population were investigated.

Materials & methods: A total of 245 kidney transplant patients being treated with MMF were recruited and cotreated with cyclosporine or tacrolimus. Genotyping was performed using the polymerase chain reaction-restriction fragment length polymorphism method. MMF, cyclosporine and tacrolimus trough levels were measured by immunoassay. The AUC (AUC0-12hMPA) was estimated by a Bayesian method.

Results: In the tacrolimus-treated group, anemia and diarrhea were associated with the UGT1A9-98C and UGT1A9-275T alleles, respectively ($p<0.05$). In the cyclosporine-treated group, leukopenia was associated with the SLCO1B1-521T allele ($p < 0.05$). Both groups had an increased risk of rejection ($p < 0.05$) associated with the variant alleles of IMPDH2-3757T>C,UGT1A9-2152C>T and UGT1A9-275C>A and the common allele of SLCO1B1-388A>G. However, no significant association was found between the studied genotypes and AUC0-12hMPA or cotreatment levels.

Conclusion: The results constitute preliminary evidence for the inclusion of the pharmacogenetics of MMF in kidney PR transplantation evaluations.

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1. Amani Abderahmene, Amel Ellouz & Dorra Amor The pharmacogenetics of mycophenolate mofetil in Tunisian renal transplant patients PERSONALIZED MEDICINE VOL. 19, NO. 5
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