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Impact of CYP3A5 and MDR1 gene polymorphisms on the dose and level of tacrolimus among living related liver transplanted patients

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Aim: To assess the impact of Cytochrome P450 3A5 (CYP3A5) and multidrug resistance-1 gene (MDR-1) single nucleotide polymorphisms on the dose and blood level of tacrolimus among liver transplanted patients.

Patients & Methods: We enrolled a prospective study of 41 liver transplanted patients. Dose adjusted through blood concentration (C/D ratio) was calculated. Polymerase chain reaction restriction fragment length polymorphism followed by sequencing was done for genotyping of CYP3A5*3 (6986A4G).

Results: At 1 week, 1 and 3 months C/D ratio were significantly lower in CYP3A5 expressers *1/*1 patients compared to non-expressers *3/*3.

Conclusion: CYP3A5 (6986A4G) genotype, rather than MDR-1 (2677G4A/T) variant has an impact on tacrolimus pharmacokinetics.

Biography

Manal Kamal is an academic person from the Department of Clinical and Chemical Pathology at Cairo University, Egypt. His research interest includes Molecular Pathology, Clinical and Molecular Genetics.

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