

Impact Of Genetic Polymorphisms On Tacrolimus Trough Blood Concentration In Chinese Liver Transplant Recipients

Nicola Maseko¹, Siyao Yang¹, Chengcheng Li¹, Siqi Zhang¹, Ruiying Wang¹, Yawen Zhang¹, Chuanjiang Li¹, Chuanjie Zhang¹, and Liang Li¹

¹Southern Medical University

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Abstract

Abstract Purpose: The aim of this study was to analyze the effect of various genetic polymorphisms and clinical factors on TAC concentration in convalescence period (CP) and stabilization period (SP) post liver transplantation. **Patients and Methods:** A total 13 SNPs of CYP3A4, CYP3A5, CYP3A7, SLCO1B1, POR, ABCB1, C5 and C6 were genotyped in 97 Chinese liver transplant recipients. Associations between SNPs and TAC concentration/dose ratio (C0/D) were analyzed using different genetic models in both CP and SP. Multivariate linear regression was used to analyze associations between TAC log (C0/D) and clinical factors. **Results:** We discovered that the effects of genetic variants and clinical factors differed between the two periods as liver function gradually recovered. We identified CYP3A5 (rs15524), C6 (rs9200) along with ALB and Cr as independent predictors of TAC C0/D. In addition our final model inclusive of ALB, Cr, rs15524 and rs9200 explained a total of 30.5% variance in TAC log (C0/D). **Conclusion:** The results of our study suggest that in the early stages post transplantation surgery recipient genetic and clinical factors exert a short term impact on TAC metabolism which gradually decreases with time.

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