

Evaluation of the Impact of Viral Hepatitis Infections in Kidney Transplant Recipients and Donors

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Background & Objectives: From different etiologic cause of clinical complications which may occurs post kidney transplantation the inducing role of some viral infections were studied earlier. Between these viral infections the pathogenic role of hepatitis viruses especially HBV and HCV and also newly identified hepatitis virus like HGV were mostly important in increasing the morbidity and mortality of kidney transplant recipients. In this study the molecular prevalence of HBV, HCV, and HGV infections and also the levels of IL-4 and IL-12 were evaluated in kidney transplant patients and donors pre and post-transplantation.

Methods: The 273 EDTA-treated blood samples were collected between years 2005-2008 from 96 and 55 kidney transplant recipients and donors, respectively. The HBV-DNA was amplified by a qualitative HBV-PCR technique. HCV and HGV RNA genomes were diagnosed in plasma samples by and in housemultiplex nested RT-PCR protocol. The statistical of relationships were analyzed between HBV and HCV and HGV viral infections with laboratory and clinical data of study transplant donors and patients by version 16 of SPSS software.

Results: The genome of HBV, HCV, and HGV were detected totally in 44 of 96 (45.8%) , 6 of 96 (6.3%) , and 11 of 96 (11.5%) of kidney transplant patients, respectively. The increasing level of IL-4 was diagnosed in 10 of 44 (22.7%) of viral infected transplant patients. Also the level of IL-12 was increased in 10 of 38 (26.3%) of viral infected kidney recipients. Statistical correlations were identified between different laboratory and clinical records of kidney transplant patients and with HBV, HCV, and HGV infections.

Conclusion: Diagnosis of high molecular prevalence of HBV infection and moderate prevalence of HCV and HGV infections in kidney transplant recipients and also confirmation of the role of IL-4 and IL-12 in pathogenesis of studied viruses on the importance role of HBV, HCV, and HGV in clinical outcomes of kidney transplant recipients.

Keywords: HBV; HVC; HGV; Kidney Transplantation; Cytokines