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Impact of Sustained Virological Response on Metabolic Profile and Kidney Function in Cured HCV Liver Transplant Recipients

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ABSTRACT

Background: Long-term morbidity and mortality following liver transplantation (LT) is influenced by HCV-related extrahepatic complications and effects of immunosuppressive therapy.

Aim: To investigate if sustained virological response (SVR) after therapy with direct acting antivirals (DAA) in recipients with post-transplant recurrent hepatitis C can influence metabolic factors and renal function.

Methods: Metabolic profile, cardiovascular risk scores, non-invasive evaluation of fibrosis, renal function was assessed in 89 HCV LT recipients at SVR and 24 months after cure.

Results: Liver stiffness measurement evaluated by transient elastography, APRI, FIB-4 and NAFLD fibrosis scores decreased significantly between baseline, SVR and 24 months after SVR. In contrast, BARD score increased significantly (p=0.001). Steatosis grade 3 was significantly encountered in a higher percentage at 24 months after SVR compared to baseline (77.5% vs 22.5%, p<0.0001). The metabolic and cardiovascular risk profile (MetS and Framingham scores), respectively, remained stable during the timeline. All liver function tests such as alanine and aspartate aminotransferase, gamma glutamyl transferase, total bilirubin improved between initiation of antivirals, SVR and 24 months after SVR; platelets increased significantly (p<0.0001 for each variable). The renal function evaluated by creatinine serum level (p=0.03) and estimated glomerular filtration rate (p=0.02) was significantly deteriorated over time.

Conclusions: Eradication of recurrent HCV infection has a clear benefit for liver-related complications, but has no impact on HCV extrahepatic manifestations. Prospective studies with non-HCV cohorts are required to compare the impact of immunosuppression on metabolic and renal complications.

Key words: HCV cure, metabolic complications, cardiovascular profile, liver transplantation