

Genetic variations in host IL28B links to the detection of peripheral blood mononuclear cells-associated hepatitis C virus RNA in chronically infected patients

Angulo, J., Pino, K., Pavez, C., Biel, F., Labbé, P., Miquel, J. F., ... & López-Lastra, M. (2013). Genetic variations in host IL 28 B links to the detection of peripheral blood mononuclear cells-associated hepatitis C virus RNA in chronically infected patients. *Journal of viral hepatitis*, 20(4), 263-272. <10.1111/jvh.12076> Accessed 09 Feb 2021.

Abstract

Hepatitis C virus (HCV) is mainly hepatotropic; however, several reports document the presence of genomic viral RNA in extrahepatic sites including peripheral blood mononuclear cells (PBMCs). In this study, the presence of HCV RNA was initially evaluated in the plasma and peripheral blood mononuclear cells (PBMCs) of 53 HCV-infected patients who were treated per protocol. PBMC-associated HCV RNA was detectable in 79% of patients. Early virological response to combined pegylated interferon- α (PegIFN) and ribavirin (RBV) therapy in patients with undetectable levels of PBMC-associated HCV RNA was 100%, while it was 60% ($P = 0.003$) in those who had detectable levels of PBMC-associated HCV RNA. A sustained virological response was observed in 35% of patients with detectable PBMC-associated HCV RNA, but was 70% in patients with undetectable levels of PBMC-associated HCV RNA ($P = 0.07$). In a multivariate analysis incorporating parameters such as HCV genotype, viral load, presence of cirrhosis and absence of PBMC-associated HCV RNA, a significant relationship was observed between the detection of PBMC-associated HCV RNA and the sustained virological response (OR 19.4, 95% CI: 2.1–486.2, $P = 0.0061$). The association between single nucleotide polymorphism (SNP) in IL28B, known predictor of antiviral therapy outcome, and the occurrence of HCV RNA in PBMC in 84 chronically infected patients was then evaluated. Results suggest that the presence of a G allele in rs8099917, known to associate to a poor response to PegIFN/RBV therapy, also predicts an increased association of HCV RNA with PBMC (OR: 3.564; 95% CI: 1.114–11.40, $P = 0.0437$).

Keywords

Anti-HCV therapy, HCV, IL28B, PBMC, PBMC-associated HCV RNA.