TNF-ALPHA POLYMORPHISM ASSOCIATED WITH TREATMENT RESPONSE IN PATIENTS WITH HEPATITIS C FROM BRAZIL NORTHEAST

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Introduction: About 170 million people are affected by the hepatitis C virus (HCV) throughout the world, 70% of which develop chronic infection, which may progress to cirrhosis and hepatocellular carcinoma. Only about 50% hepatitis C (HCV) genotype 1 patients treated with pegylated interferon (PEG-IFN) alpha and ribavirin will achieve sustained virological response (SVR). Several host and viral factors are linked to treatment outcomes. However, these factors still could not fully predict the therapy response in HCV infection. Objectives: The aim of the present study was to investigate the association of TNF-α -308 polymorphism (rs1800629) on treatment response and severity of the disease in patients with chronic HCV. Materials and Methods: A total of 286 consecutive patients with hepatitis C virus were followed-up at the Gastrohepatology Service of the Oswaldo Cruz University Hospital and Liver Institute of Pernambuco (Brazil Northeast). TNF-α -308 (rs1800629) and IL28B (rs12979860) genotyping were performed by real-time PCR using TaqMan Genotyping Assay. A stepwise multivariate logistic regression analysis was performed to verify whether the TNF -308 polymorphism was an independent predictor of SVR. Results: After adjustment in multivariate analysis, the variables GGT, TBIL, HCV genotype, IL28B and TNF-α polymorphisms were considered independent predictors of SVR. Patients with HCV genotype 1 carrying the TNF-α GA/AA genotypes had two times more chance of achieving SVR than those carrying the GG genotype (OR 2.407; p=0.032). We did not find significant association between TNF-α polymorphism and fibrosis severity. Conclusions: The present study suggests TNF-α polymorphism could be a good predictor of achieving SVR in HCV infected individuals treated with PEG-IFN-alpha plus ribavirin.

Keywords: HCV, TNF, treatment