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Role of IL-28B polymorphisms in virologic response to combined pegylated interferon and ribavirin therapy in genotype 4 chronic HCV infected patients with and without cirrhosis

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Background: Chronic HCV represents one of the common causes of chronic liver disease worldwide with Egypt having the highest prevalence, namely genotype 4. The rs12979860 CC genotype of the interleukin 28B (IL 28B) polymorphisms is associated with high rates of sustained virological response to peg-interferon and ribavirin in hepatitis C virus genotype-1 patients. Data on other genotypes are more limited.

Objectives: We aimed to evaluate the predictive power of the rs12979860 IL28B single nucleotide polymorphisms for treatment response at 3 and 6 months in genotype 4 Egyptian patients.

Patients & Methods: The study included 60 chronic hepatitis C virus Egyptian patients receiving peg-interferon and ribavirin therapy. Patients were classified into 2 groups; 30 patients with compensated cirrhosis, and 30 patients without cirrhosis. We analyzed selected pretreatment factors such as age, sex, HCV viral load, anti-schistosomal antibodies, insulin resistance, alpha fetoprotein, low and high density lipoproteins and single nucleotide polymorphisms of IL 28B and tried to find out which of them influence sustained virological response.

Results: In univariate analysis, CC genotype showed a significant association with sustained virological response at 6 months among the cirrhotic patients (81.8% responders had the CC genotype, 58.3% had the CT/TT genotype) (P=0.009). While in multivariate analysis, presence of cirrhosis showed higher risk of failed response at 3 and 6 months (p=0.016 and 0.020 respectively). Also, positive schistosoma serology was an important negative predictor of response at 3 and 6 months in both groups (p=0.003 and 0.001 respectively).

Conclusions: In Egypt, where chronic HCV genotype 4 and schistosoma coinfection predominates, both schistosoma infection and cirrhosis are more potent than IL 28B polymorphisms as strong baseline negative predictors of hepatitis C treatment response.

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