Predictors of Response to Interferone Therapy in Chronic Hepatitis C Virus Infection

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Abstract : Introduction: The combination of interferon (INF) and ribavirin is the preferred treatment for chronic hepatitis C viral (HCV) infection. However, nonresponse to this therapy remains common and is associated with several factors such as HCV genotype and HCV viral load in addition to host factors such as sex, HLA type and cytokine polymorphisms. Aim of the work: The aim of this study was to determine predictors of response to (INF) therapy in chronic HCV infected patients treated with INF alpha and ribavirin combination therapy. Patients and Methods: The present study included 110 patients (62 males, 48 females) with chronic HCV infection. Their ages ranged from 20-59 years. Inclusion criteria were organized according to the protocol of the Egyptian National Committee for control of viral hepatitis. Patients included in this study were recruited to receive INF ribavirin combination therapy; 54 patients received pegylated NF α-2a (180 μg) and weight based ribavirin therapy (1000 mg if < 75 kg, 1200 mg if > 75 kg) for 48 weeks and 53 patients received pegylated INF α-2b (1.5 ug/kg/week) and weight based ribavirin therapy (800 mg if < 65 kg, 1000 mg if 65-75 kg and 1200 mg if > 75kg). One hundred and seven liver biopsies were included in the study and submitted to histopathological examination. Hematoxylin and eosin (H&E) stained sections were done to assess both the grade and the stage of chronic viral hepatitis, in addition to the degree of steatosis. Modified hepatic activity index (HAI) grading, modified Ishak staging and Metavir grading and staging systems were used. Laboratory follow up including: HCV PCR at the 12th week to assess the early virologic response (EVR) and at the 24th week were done. At the end of the course: HCV PCR was done at the end of the course and tested 6 months later to document end virologic response (ETR) and sustained virologic response (SVR) respectively. Results One hundred seven patients; 62 males (57.9 %) and 45 females (42.1%) completed the course and included in this study. The age of patients ranged from 20-59 years with a mean of 40.39±10.03 years. Six months after the end of treatment patients were categorized into two groups: Group (1): patients who achieved sustained virological response (SVR). Group (2): patients who didn't achieve sustained virological response (non SVR) including non-responders, breakthrough and relapsers. In our study, 58 (54.2%) patients showed SVR, 18 (16.8%) patients were non-responders, 15 (14%) patients showed break-through and 16 (15 %) patients were relapsers. Univariate binary regression analysis of the possible risk factors of non SVR showed that the significant factors were higher age, higher fasting insulin level, higher Metavir stage and higher grade of hepatic steatosis. Multivariate binary regression analysis showed that the only independent risk factor for non SVR was high fasting insulin level. Conclusion: Younger age, lower Metavir stage, lower steatosis grade and lower fasting insulin level are good predictors of SVR and could be used in predicting the treatment response of pegylated interferon/ribavirin therapy.

Keywords : chronic HCV infection, interferon ribavirin combination therapy, predictors to antiviral therapy, treatment response

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