INTRODUCTION

Twenty-six centuries later, things have changed: ancient people wanted to predict future possibilities by means of the liver, whereas now we want to predict the future of the liver by any possible means. Today, hepatitis C virus (HCV), which probably did not exist at the time of the Babylonian Empire,1 chronically infects 170 million people worldwide, and can lead to liver failure and hepatocellular carcinoma ***(Samuel et al., 2003; Hasan et al., 2004)***. A mere decade ago, the best antiviral therapies produced a long-term virological remission (sustained virological response, SVR) in only 5–10% of treated patients, but significant advances in treatment have increased the SVR rate almost 10-fold to 54–61%. These high response rates were obtained by modifying the standard interferon by attaching a polyethylene glycol (PEG) moiety (pegylation) to produce a longer-active peginterferon ***(Samuel et al., 2003)***.

The investigators wrote, "several baseline and on-treatment factors were associated with RVR and complete EVR to peginterferon alfa-2a plus ribavirin in difficult-to-treat HCV genotype-1 patients, providing important prognostic information on the antiviral response in a patient cohort that is reflective of the general chronic hepatitis C population."

"The response to antiviral therapy in HCV-infected patients is heterogeneous and, despite increases in SVR rates, treatment outcomes with peginterferon alfa-2a plus ribavirin are not optimal in certain patient populations and might still be improved," the researchers

elaborated in their discussion. "Monitoring the early antiviral response to therapy can help identify those patients who are less likely to achieve SVR and therefore provide critical information for the overall management of patients with chronic hepatitis C ***(Hasan et al., 2004)***.

Predictors of response to therapy serve as decision tools for physicians to help identify patients who are likely or unlikely to achieve an SVR, and to consider pretreatment counseling in those patients with a reduced likelihood of successful therapy, perhaps sparing them the side effects and cost of therapy. Therefore, knowledge of predictors to these therapies is extremely valuable. Traditional predictors of response identified in international studies regardless of genotype can be divided into three groups: (a) epidemiological factors including patient age, sex, and race, (b) viral factors, most importantly the pretreatment viral load, rapid virologic response, and the genotype, and (c) histological factors including the amount of fibrosis and steatoses. In previous studies on genotype 4, some of the above predictive factors were confirmed, including age, pretreatment viral load, and stage of fibrosis ***(Kamal and Nasser, 2008; Rodriguez-Torres et al., 2010)***.