Viral load predicts virological response to therapy in chronic hepatitis C

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Introduction: Hepatitis C is an infectious disease affecting primarily the liver, caused by the hepatitis C virus (HCV). HCV infection is a major problem in Egypt. Egypt has the highest prevalence of the Hepatitis C virus (HCV) in the world, with 14 percent of the population infected and 11.8 million patients, according to the World Health Organization. Every year there are 170,000-200,000 new HVC cases in Egypt. It was first discovered in 1989. The hepatitis C virus (HCV) is a small, enveloped, single-stranded, positive-sense RNA virus. It is a member of the *Hepacivirus* genus in the family *Flaviviridae*. There are seven major genotypes of HCV, which are known as genotypes one to seven. It is transmitted by injection, which means spread primarily by blood-to-blood contact associated with intravenous drug use, poorly-sterilized medical equipment, and transfusions.

Aim of the study: This study aims to determine the common prevalent HCV genotypes among chronic HCV patients in Egypt and to evaluate the rate of sustained virological response (SVR) with some factors that affecting it.

Subject & Methods: In our study, fifty patients were enrolled. Eligible participants were aged ≥18 years, had chronic HCV genotype 4 infection (serum HCV RNA≥2000 IU/mL). All Biochemical tests for liver function, Blood sugar and HBA1C were done for all cases. The recommended regimen was DCV 60 mg plus SOF 400 mg once daily for 12 weeks; at their discretion, physicians could add RBV to the regimen or reduce treatment duration. HCV-RNA (viral load) was measured using RT-PCR (quantitative method) (Qiagen/BD Company) (Before treatment and after 12 weeks).

Results: SVR achieved 12 weeks after the end of treatment. Of the 50 evaluable patients, six received DCV+SOF and 44 DCV+SOF+RBV. Most patients were men (76%). SVR12 (modified intention-to-treat) was achieved by 98% of patients (48/50); one patient had virological breakthrough (was lost to follow-up at four weeks after treatment) and one patients relapsed. There was no statistically significant difference in treatment efficacy between treatment-naive patients (100%, 37 of 37) and those with treatment experience (84.6%; 11 of 13) (P=51). High SVR12 was observed regardless cirrhosis and level of diabetes.

Conclusions: In our study, the most predominant genotype was genotype IV with 86%. Of our HCV-treated patients, had high SVR. HCV genotype-4, and low baseline viral load were predictive of SVR.

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