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Effect of chronic hepatitis C virus treatment by combination therapy on cardiovascular system

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Introduction: The prevalence of hepatitis C virus (HCV) in Egypt is quite high and the recent introduction of combined oral direct antiviral agents may have impressive results.

Aim: Aim of this study is to assess the cardiovascular effects of direct acting antiviral agents (DAAs) in combination with or without pegylated interferon alpha (PEG-IFN) in Egyptian patients with chronic hepatitis C infection.

Methods: This study included 170 patients suffering from chronic hepatitis C virus infection. Patients were divided into two groups; first group (100 patients) received triple combination therapy in the form of pegylated interferon alpha, sofosbuvir (sovaldi) and ribavirin, while second group (70 patients) received dual combination therapy in the form of sofosbuvir and simeprevir (sovaldi and olysio). Group one patients were followed up for one year over three visits; before initiating treatment, then six months and 12 months later while group two patients were followed up for six months over two visits; before initiating treatment and then six months later and the end point of the study was either development of a major cardiovascular event throughout the course of the study (e.g. congestive heart failure, echocardiographic evidence of LV dysfunction, occurrence of significant arrhythmias or acute coronary syndrome) or completing till the end of the study without any evidence of cardiac affection. The following parameters were accomplished, thorough medical history and clinical examination, ECG, echo-Doppler study and laboratory investigations.

Results: No significant differences were found between the two study groups as regards demographic criteria. None of both group patients had developed any major cardiac event (e.g. congestive heart failure, echocardiographic evidence of LV dysfunction, occurrence of significant arrhythmias or acute coronary syndrome). No significant changes as regards ST-T wave abnormalities or arrhythmias had occurred six and twelve months after initiation of treatment compared to baseline visit. None had developed prolonged QT interval at follow up visit. No significant changes were seen in the mean values of corrected QT in group two patients over study visits (p value >0.05). None of both group patients had or developed echocardiographic regional wall motion abnormalities (RWMA) at baseline or at study end. Systolic function parameters showed minute non-significant changes over study visits (p value >0.05). Diastolic function parameters (E/A ratio, deceleration time and E/Ea ratio) showed non-significant changes between baseline and 6- and 12 month visits (p value >0.05).

Conclusion: The direct antiviral agents used in combination regimen with interferon (pegylated interferon alpha, sofosbuvir and ribavirin) or used orally in combination (sofosbuvir and simeprevir) not significantly affect the cardiovascular system.

Biography

Reda Biomy completed his Graduation at Benha University, Egypt and MD in Cardiology 1992. In 1995, he worked as an Associate Professor of Cardiology at Benha University, Egypt and he was responsible for non-invasive cardiology lab and cardiac catheterization lab.

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