

Serum MicroRNA-122 and MicroRNA-155: Markers of Disease Progression in Hepatitis C viral infection

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Chronic HCV with its longstanding complications of cirrhosis and HCC is a highly prevalent and challenging problem in Egypt. Recently, microRNAs are ranked as potential biomarkers for early diagnosis of HCV related complications. The aim of the present study was to evaluate the role of miRNA-122 and miRNA-155 for prediction of progression of HCV infection and for diagnosis of HCC. A total of 92 chronic HCV patients [chronic HCV (group 1, n =32); chronic HCV with cirrhosis (group 2, n=31); chronic HCV with HCC (group 3, n=29)] were enrolled into the study. Expression of serum miRNA-122 and miRNA-155 was assayed by real-time PCR in all participants. The serum level of miR-122 was significantly higher in chronic HCV patients than in healthy controls and both of cirrhotic and HCC patients ($P<0.001$). Serum miR-155 was significantly elevated in HCC than in controls and non-HCC patients ($P<0.001$). MiR-155 at the cut-off value of >6.11 for HCC diagnosis, had sensitivity and specificity of 72.4% and 95.2%, respectively. In conclusion; microRNA-122 is a potential marker of progression of hepatocytes injury in patients infected with HCV but not a reliable marker for diagnosis of HCC. MicroRNA-155 is a relatively reliable marker for HCC detection.