Sahar Ali Mohamed Ali, Appli Micro Open Access 2017, 3:2(Suppl)
DOI: 10.4172/2471-9315-C1-005

Serum expression levels of miR-141and miR-215 for differentiation between Liver Cirrhosis , Chronic Heptitis C and Hepatocellular Carcinoma Patients

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Objectives: To evaluate the ability of estimation of serum expression levels of microRNA-141 and 215 to differentiate between liver cirrhosis, chronic hepatitis C (CHC) and hepatocellular carcinoma (HCC) patients.

Patients & Methods: The study included 25 liver cirrhosis patients, 25 CHC patients, 25 HCC patients and 15 volunteers (Control group). All patients and controls gave fasting blood samples for estimation of serum levels of α-fetoprotein (AFP), quantitative PCR estimation of HCV RNA titers and real-time PCR quantitation of serum expression levels of microRNA-215 and -141.

Results: Serum AFP levels were significantly higher in HCC patients than cirrhosis and CHC patients. Estimated serum expression levels of microRNA-215 were significantly higher in CHC and HCC patients compared to both controls and cirrhosis, while serum expression levels of microRNA-141 were significantly lower in HCC patients compared to controls and cirrhosis patients and in CHC patients than controls. Estimated HCV viral load in CHC patients showed positive significant correlation with serum expression level of microRNA-215, while showed non-significant correlation with microRNA-141. Estimated serum levels of microRNA-215 and 141 could differentiate hepatic patients and controls with AUC=0.872 and 0.250, respectively. Estimated serum levels of microRNA-215 could differentiate between cirrhosis and CHC patients with AUC=0.899. Estimated serum levels of microRNA-215 and 141 could identify HCC patients out of hepatic disease patients with AUC of 0.818 and 0.351, respectively.

Conclusion: Serum expression levels of microRNA-215 and 141 could identify hepatic disease patients with high positive predictive value (PPV) especially for microRNA-215. MicroRNA-215 can differentiate between cirrhosis and CHC patients and correlated with HCV load.

Biography

Sahar Ali Mohamed Ali has completed his PhD from Menoufia University of Medicine. She is the Medical Director of AL Ansaar Hospital Lab in Medina KSA and an Assistant Professor of Microbiology and Immunology, Faculty of Medicine, Menofia University. She has published more than 14 papers in reputed journals and has been serving as an Editorial Board Member of repute.

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