

Serum diagnostic markers for hepatocellular carcinoma associated with HCV infection

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Hepatitis C virus (HCV) is a single stranded RNA virus, of the *Flaviviridae* family. It is the main cause of chronic HCV diseases like fibrosis, cirrhosis, HCC and end stage liver disease. Worldwide, about 71 millions of individuals have HCC resulting from HCV chronic infection with about 790 thousands annual deaths. A major cause of high mortality rate due to HCC is the lack of early diagnostic resources. There is a great need for a sensitive, specific and non-invasive diagnostic marker to detect HCC in the earlier stages. We studied four protein markers in serum (SAA2, KNG1, PON1 and GAL3) that were significantly elevated in HCV-related HCC patients in previous study in our lab using C-MS/MS screening analysis and separated by SDS-PAGE gel electrophoresis. Estimation of protein concentrations were done in 52 patients infected with HCV-free HCC, 51 with HCV-related HCC in addition to 40 healthy participants as a control group. Analyses of protein concentrations were performed using sandwich ELISA technique. From the studied biomarkers, SAA2 provided the highest diagnostic accuracy (AUC=0.925) for HCC patients at ($p<0.001$). Moreover, the diagnostic accuracy increased slightly when we used the panel of SAA2 with AFP, together with AUC=0.946, for HCC patients. SAA2 may have a considerable use in early detection of HCC in both normal population and high-risk patients.

Biography

Erin Sharkawy has completed her Bachelor's degree of Science (Biochemistry) in 2012, Diploma of Medical Tests–Biochemistry Analysis in 2013, Master's degree in Biochemistry from Cairo University of Science. She is a Member of Presedential Leadership Programme. She is currently waiting to publish three papers on cancer researches. She has also worked as a Bio-Analytical Chemist and Medical Representative, but now she works as a Demonstrator and Molecular Biologist at National Cancer Institute. She has participated in Summer Training courses at NCI of Basics of Cancer and Molecular Biology.

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