

Impact of SEN virus on immunoblot INNO-LIA HCV reactivity pattern and disease outcome in Egyptian hepatocellular carcinoma patients

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Recently, a novel virus designated SEN virus (SENV), which is thought to be related to posttransfusion hepatitis, was discovered. The aim of the present study was to investigate the prevalence and clinical significance of 2 SENV variants (SENV-D and SENV-H) in patients with hepatocellular carcinoma (HCC) and healthy adults. Also, to investigate the possible effect of SEN virus on the humoral immune response against different proteins of HCV through analyzing reactivity patterns of the confirmatory INNO-LIA HCV Ab III update in relation to SEN viremia. We investigated SEN virus infection in 41 patients with HCC (25 males and 16 females) and twenty healthy blood donors (12 males and 8 females). All samples were taken from the National Cancer Institute, Cairo University. We used semi nested polymerase chain reaction (PCR) amplification to detect SENV-D and SENV-H strains in serum. All patients were tested against HCV antibody by ELISA and HCV viremia by RT-PCR. Furthermore, nineteen patients positive for HCV antibody by EIA (10 positive for SEN DNA and 9 non viremic for SEN) were confirmed in the immunoblot assay. SENV DNA was detected in 68 % (28 of 41) of patients with HCC and in 64 % (21 of 33) HCV-related HCC, in comparison to 5% (1 of 20) healthy blood donor populations. The blood biochemical parameters, and performance status did not differ significantly between the SENV DNA-positive and -negative patients. However, the overall survival rate was 50 % after two years follow up in SENV DNA-positive and 14 % in SENV DNA-negative HCC patients. Reactivity to NS5 and E2 were less (22 % and 44 % of cases) in SENV negative cases, than in SENV positive cases (70 % and 80 % of cases, respectively). In conclusion, SENV DNA seems to be highly prevalent among Egyptian HCC patients. Cross reactivity between SENV proteins and HCV NS5, E2 or the increased immune response in SENV positive cases and consequently the increased reactivity to HCV NS5 and E2 proteins could not be ruled out. Although there was no apparent effect of SENV on biochemical tests, survival rates of SENV DNA-positive HCC patients were higher than negative cases, which might be due to other factors affecting survival in our Egyptian HCC patients.