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HDV viral load related liver fibrosis patients clinical evaluation based on M2BPGi level in serum

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Introduction : HBV-HDV coinfection which significantly increases the risk of developing liver cirrhosis and hepatocellular carcinoma (HCC), in Mongolia. HDV-related HCC is understudied, the underlying biological mechanisms associated with liver cancer remains unclear. Mac-2 Binding Protein Glycosylation isomer (M2BPGi) is a novel serological glyco-biomarker for staging liver fibrosis and cirrhosis. We investigate to evaluate the efficiency of serum M2BPGi with chronic hepatitis D infection.

Methods : Serum M2BPGi levels were evaluated in 50 patients with chronic hepatitis D and 25 healthy controls who underwent the hepatologist control in our institution were enrolled in this study. HDV viral load and M2BPGi, PIVKA II level in serum both groups were examined using real time reverse transcription-polymerase chain reaction and ELISA immunoassay. The patients were divided into two groups: high and low groups, based on the HDV viral load. We compared the clinicopathological factors between the high expression and low groups.

Results : M2BPGi serum level was in between healthy controls (0.8 ± 0.49) and hepatitis D patients (6.04 ± 5.8). M2BPGi concentrations also was between in HDV high viral load group 10.8 ± 7.1 (>200 IU/mL, n=40), HDV low viral load group 1.3 ± 1.4 (<200 IU/mL, n=10). In the univariate analysis, serum alanine aminotranferase, aspartate aminotranferase, PIVKA II and M2BPGi were determined as the significant risk factors of HDV viral load. Compared with other non-invasive markers, M2BPGi had the greatest specificity for diagnosing cirrhosis and cirrhosis in hepatitis D patients.

Conclusions : Serum M2BPGi could be a non-invasive, predictive new biomarkers for liver fibrosis, cirrhosis and progression of HCC among HDV infected patients.

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