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Study on the noninvasive markers of liver fibrosis and inflammation in chronic hepatitis B patients

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Liver biopsy is the gold standard in assessing histological abnormalities of the liver. The widely accepted indicator for antiviral therapy for chronic hepatitis B (CHB) in China is that the serum alanine aminotransferase (ALT) is more than two times the upper limit of normal (ULN). Although the role of ALT as an effective predictor of liver inflammation has been not definitively proven. It needs more effective non-invasive markers for assessing liver inflammation and fibrosis. We retrospectively evaluated non-invasive markers of treatment-naïve CHB patients who had done liver biopsy from October 2010 to October 2015. And our aim is to investigate the characteristics of histological abnormalities and find effective indicators to assess liver inflammation and fibrosis. Significant liver abnormality was defined as necroinflammation grade ≥A2 and/or fibrosis stage≥F2. A total of 522 CHB patients were recruited, 268 had normal ALT, 164 had 1-2×ULN ALT and 90 had ALT more than 2×ULN. Serious inflammation and fibrosis could be found in the patients with ALT that less than twice ULN. There are significant differences in age, platelet count (PLT), ALT, aspirate aminotransferase (AST), aspartate aminotransferase and alanine aminotransferase ratio (AAR), aspartate aminotransferase to platelet ratio index (APRI), and fibrosis index based on the 4 factor (FIB-4) between patients with mild and serious necroinflammation , and AST was the independent risk factor in predicting serious necroinflammation. The cut-off value of serious necroinflammation for AST was 29.5 U/L. The differences of age, older than 40 or not, PLT, ALT, AST, APRI, FIB-4 and HBV-DNA were statistically significant, and PLT was an independent factor in assessing the fibrosis stage.A high proportion of CHB patients with normal and 1-2×ULN ALT have serious liver histological abnormalities. AST could be an effective non-invasive marker for liver inflammation for treatment-naïve CHB patients and there is serious liver inflammation in CHB patients with AST more than 29.5U/L.

Biography

Weifeng Liang has completed his PhD in 1997 from Zhejiang University, China. He is the doctoral tutor, professor of Zhejiang University. He is the deputy director of both State Key Laboratory for Diagnosis and Treatment of Infectious Diseases and Collaborative Innovation Center for Diagnosis and Treatment of Infectious Diseases of China. He is the director of Shengzhou Branch of The First Affiliated Hospital of Zhejiang University as well. He has published more than 70 papers in reputed journals and has been serving as an editorial board member of repute. He made outstanding contributions to the prevention and treatment of infectious diseases, especially viral hepatitis and AIDS.

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