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VALUE OF HEPATITIS B SURFACE ANTIGEN IN THE PREDICTION OF LIVER INJURY AMONG PATIENTS WITH IMMUNE-TOLERATE PHASE CHRONIC HEPATITIS B

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Background/Aims: It has been demonstrated that significant fibrosis occurs in a proportion of hepatitis B e-antigen (HBeAg) positive patients (22.5–49.4%) with persistently normal serum alanine transaminase (ALT) levels. Notably, chronic hepatitis B (CHB) in the immune-tolerate (IT) phase, if left untreated, is significantly associated with high risks of hepatocellular carcinoma (HCC) and death. HBeAg-positive chronic hepatitis B virus (HBV) infection still has the risk of developing HCC, suggesting a need for the treatment of IT-phase CHB patients, particularly for those individuals with the presence of liver injury for slowdown the disease progression. This multiCentre study aimed to develop a noninvasive model to predict significant fibrosis among CHB patients in the IT phase.

Materials and methods: A total of 113 CHB patients who were classified as IT-phase CHB with HBeAg positive, high HBV DNA (more than 107 IU/mL), and normal ALT at the time of liver biopsy, were retrospectively recruited in this multicentre study. Relationships between HBsAg and liver fibrosis were analysed by Spearman rank correlation. Receiver operator characteristic (ROC) curves were used to evaluate the diagnostic value of HBsAg for the prediction of liver fibrosis. Multivariate logistic regression analysis was conducted to construct a non-invasive model for the prediction of significant fibrosis among the IT-phase CHB patients. Results: DS-defined IT-phase CHB patients (HBeAg positive, HBV DNA ≥ 1,000,000 IU/mL, and normal ALT) and histological profiles (necroinflammatory score <4 and fibrosis≤1 on liver biopsy) had significantly higher HBsAg levels than the non-IT patients. The quantitative HBsAg level can help identify IT patients with potential liver injury. The optimal level of HBsAg to identify DS IT was log 4.46 IU/mL with an AUC of 0.77, a sensitivity of 72.7%, a specificity of 79.7%, a PPV of 69.6% and a NPV of 82.1%, while log 4.44 IU/ml for F≥2 gave an AUC of 0.83, a sensitivity of 81.1%, a specificity of 81.6%, a PPV of 68.2% and a NPV of 89.9%, respectively

Conclusions: Approximately one-third of the IT-phase CHB patients may have medium or severe liver injury. The IT-model combining HBsAg level is able to identify significant fibrosis in the IT-phase CHB patients.

Note:

BIOGRAPHY

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