Vascular obstruction contributes to progression of hepatic cirrhosis in patients with chronic HBV

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Objective: To investigate the relationship between Vascular obstruction and progression of hepatic cirrhosis in patients with chronic HBV.

Study design: 310 patients from 123rd hospital of PLA with HBV-related cirrhosis received liver biopsy follow-up were included in this study. HE and immunohistochemical staining were used to examine the changed in liver pathology. The scores of hepatic fibrosis grading were determined blindly by two independent pathologists.

Results: HE and Immunohistochemical staining demonstrated that patients with high hepatic fibrosis scores showed intrahepatic vascular obstruction, more fibrous tissue and a stronger protein expression of VEGF in endothelial cells compared with patients with low hepatic fibrosis scores. After intrahepatic injections with Hepatocyte Growth Factor (HGF), vascular obstruction was markedly ameliorated and collagen fibers and expression of VEGF in liver tissue was significantly reduced showed by follow-up liver biopsies compared with the initial liver biopsy.

Conclusions: Our data showed that vascular obstruction contributes to progression of hepatic cirrhosis in patients with chronic HBV. This study provided us a new therapeutic approach to HBV-related liver cirrhosis.
Results: No serious side effects or complications were found. ALB of patients in group A were significantly superior to group B at 3–24 weeks. TBIL and PT of group A were markedly superior to group B at 4–12 weeks. MELD scores of group A was markedly superior to group B at 3–36 weeks. Improvements were also found in the manifestations of ultrasound.

Conclusion: Autologous MMSCs transplantation is safe and effective for chronic hepatitis B patients with liver failure.

OL-084 Tumor necrosis factor-α-857T allele reduces the risk of chronic HBV infection in Asian population

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Background: Tumor necrosis factor-α (TNF-α) plays a pivotal role in viral clearance and host immune response to hepatitis B virus (HBV), and the capacity for TNF-α production in individuals is influenced by a major genetic component. The studies of TNF-α-857 gene promoter polymorphism in chronic HBV infection have reported apparently conflicting results. We aimed to derive a more precise estimation of the relationship between the polymorphism of TNF-α-857 gene promoter and chronic HBV infection.

Methods: PubMed (January, 1966-March, 2011) and China Biological Medicine Database (January, 1978-March, 2011) were searched using the keywords related to the TNF-α gene polymorphism in combination with words related to HBV infection without language restriction. Fourteen studies including 4929 chronic HBV infection cases and 2702 controls described C857T genotypes were involved in the meta-analysis.

Result: All the fourteen studies focus on Asian population. The overall meta-analysis suggested that TNF-α-857T allele reduced the risk of chronic HBV infection in Asian population (OR = 0.82, 95% CI: 0.71–0.95, P = 0.008) when compared with spontaneously recovered population. In the sensitivity analyses of the groups obeying Hardy-Weinberg Equilibrium (HWE), without the largest study population and without the smallest study population, the similar association was revealed (OR = 0.81, 95% CI: 0.68–0.98, P = 0.043; OR = 0.77, 95% CI: 0.68–0.87, P = 0.0001; OR = 0.81, 95% CI: 0.70–0.95, P = 0.009, respectively). However, when compare chronic HBV infection patients with healthy population, no significant association was found in Asian population in either total group or the groups obeying HWE, without the largest study population or without the smallest study population.

Conclusion: TNF-α-857T allele reduces the risk of chronic HBV infection in Asian population.

DL-085 A candidate genes study for the association of host single nucleotide polymorphisms with liver cirrhosis risk in Chinese hepatitis B patients

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Purpose: The present study was designed to validate the association of emerging SNPs with development of liver cirrhosis in a Chinese population infected with hepatitis B virus (HBV).

Methods: A total of 714 Chinese subjects with persistent HBV infection (429 with evident liver cirrhosis and 285 without cirrhosis clinically or pathologically) were studied. Fourteen SNPs in ten candidate genes were detected with matrix-assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-TOF MS) method. The distribution of each polymorphism was compared between the age-matched cirrhosis and non-cirrhosis subjects.

Results: The rs2679757 polymorphism of the antizyme inhibitor 1 (AZIN1) gene and the Rs862777 in the transient receptor potential cation channel subfamily M, member 5 gene (TRPM5) were associated with the risk of cirrhosis (odds ratio = 1.47, and 1.63, respectively). Two SNPs (rs4986791, rs62522600) are not polymorphic in Chinese. Genotype frequencies of other SNPs were not different between the cirrhotic and non-cirrhotic groups.

Conclusions: AZIN1 and TRPM5 were associated with the risk of HBV-related liver cirrhosis in Chinese. The emerging SNPs associated with cirrhosis prognosis warrant further clinical validation in hepatitis B patients, and evoke mechanistic studies to reveal their roles in fibrosis progression.