



B-type natriuretic peptide and cirrhosis progression

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ABSTRACT. Brain natriuretic peptide (BNP) is used as a marker of cardiac dysfunction to predict heart failure mortality. The significance of the prognostic ability of BNP for liver cirrhosis remains unknown, although the levels of BNP seen in cirrhosis are high. We aimed to determine whether the BNP level is related to the stage of cirrhosis and could serve as a prognostic marker of cirrhosis (predict the 1-year all-cause mortality). We recruited 92 patients at different stages of cirrhosis and 81 controls matched by age and gender for this study. At admission, cardiac physical examination and BNP measurements were performed. Upon discharge, the 89 patients were followed up for 12 months. The median BNP levels of patients with cirrhosis were 167.0 pg/mL, which were significantly higher than those of the control group (167.0 vs 34.8 pg/mL, $P = 0.001$). Serum BNP levels were positively correlated with the Child score, the grade of esophageal varices, a history of spontaneous bacterial peritonitis, and the presence of ascites

and collateral circulation. BNP levels above the median were associated with an increased occurrence of death within 12 months of discharge (log rank $P = 0.025$), as determined by univariate and multivariate Cox regression analyses. Esophageal varices, large/medium volume ascites, and BNP levels were related to the clinical outcome ($P = 0.034$, 0.030 , and 0.025 , respectively). Together, these results suggested that serum BNP levels are significantly correlated with the stage of cirrhosis, suggesting that BNP levels might serve as a significant predictor for 1-year all-cause mortality.

Key words: B-type natriuretic peptide; Cirrhosis; Clinical outcome