Expression and clinical significance of miR-122 and miR-29 in hepatitis B virus-related liver disease

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ABSTRACT. MicroRNA molecules have been increasingly regarded as a diagnostic and prognostic marker of certain diseases. The aim of this study was to investigate the expression and clinical significance of miR-122 and miR-29 in liver disease related to hepatitis B virus infection. The serum levels of miR-122 and miR-29 in 20 patients with hepatocellular carcinoma (HCC), 20 patients with liver cirrhosis (LC), 29 patients with chronic hepatitis B (CHB), 20 cases of hepatitis B virus carriers (ASC), and 20 healthy controls (HC) were determined by a fluorescence real-time quantitative PCR method and then evaluated by clinical correlation analysis. Compared with the serum levels of miR-122 in the HC, LC, and ASC groups, those in patients with HCC and CHB were significantly increased. The serum levels of miR-29 in LC patients were lower than those in the healthy controls (P < 0.01). A positive correlation was observed between the expression of miR-122 and miR-29, and HBV DNA in patients with CHB. A negative correlation was found between miR-29 and α-fetoprotein in patients with HCC. The elevation in miR-122 was correlated with liver damage in CHB patients and with the pathogenesis of liver cancer in HCC patients. The decrease in miR-29 expression was related to the incidence
of liver fibrosis. The detection of miR-122 and miR-29 may be useful in evaluating the inflammatory liver injury and fibrosis associated with chronic HBV infection.

**Key words:** Chronic hepatitis B; Hepatocellular carcinoma; miR-122; miR-29