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A single nucleotide polymorphism in the promoter region (rs10877887) of let-7 is associated with hepatocellular carcinoma in a Chinese population

Z.Y. Sui*, J. Li*, G.L. Cheng and S.F. Wang

Department of Gastroenterology,
The Second Affiliate Hospital of Soochow University, Suzhou, China

These authors contributed equally to this study.
Corresponding author: S.F. Wang
E-mail: sfwang59@sina.cn

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ABSTRACT. Hepatocellular carcinoma (HCC) is a complex polygenic disease whose development is dependent on many genetic factors. The *let-7* family, an important and widely studied microRNA family, has been shown to play an important role in the initiation and progression of HCC. In this study, we examined the possible associations between single-nucleotide polymorphisms in the promoter region of the *let-7* family (rs10877887) and the susceptibility and prognosis of HCC, using a case-control research model. Eighty-nine HCC patients and 95 healthy controls were genotypes by direct sequencing, and the correlation between rs10877887 genotypes and HCC susceptibility was evaluated using an unconditional logistic regression model. Populations with the CT + CC genotype were at a significantly higher risk of HCC compared to those with the TT genotype (CT + CC *vs* TT: odds ratio = 3.52, 95% confidence interval = 1.90-6.52; $P < 0.05$). Furthermore,

we discovered that the genetic variant of rs10877887 might serve as a prognostic marker for survival in HCC patients, as the CT + CC genotype was associated with poor prognosis.

Key words: Hepatocellular carcinoma; let-7;
Single nucleotide polymorphism

