



CYP1A2* polymorphism in Chinese patients with acute liver injury induced by *Polygonum multiflorum

K.F. Ma, X.G. Zhang and H.Y. Jia

The First Affiliated Hospital, Zhejiang University, Hangzhou, China

Corresponding author: H.Y. Jia
E-mail: jancemkf@163.com

Genet. Mol. Res. 13 (3): 5637-5643 (2014)
Received November 5, 2013
Accepted February 10, 2014
Published July 25, 2014
DOI <http://dx.doi.org/10.4238/2014.July.25.19>

ABSTRACT. The objective of this study was to evaluate the genotype and allelic frequencies of *CYP1A2* in Chinese patients with acute liver injury induced by *Polygonum multiflorum*. We examined the clinical mechanism of acute liver injury induced by *P. multiflorum*. According to the diagnostic criteria for drug-induced liver injury (DILI), 43 cases of *P. multiflorum*-induced liver injury admitted to the First Affiliated Hospital, Zhejiang University were identified between January 2008 and December 2012. An additional 43 control subjects were also chosen. Several alleles, including *1C, *1F, *2, *7, *9, and *11 of *CYP1A2* were amplified from genomic DNA and sequenced. We used the chi-square test to determine whether *CYP1A2* allele polymorphisms are associated with acute liver injury induced by *P. multiflorum*. The frequency of the *CYP1A2* *1C allele was 46.5% in *P. multiflorum*-induced DILI patients, which was significantly different from the frequency of 27.9% observed in healthy subjects. The frequency of the *CYP1A2**1F allele was 63.9% in *P. multiflorum*-induced DILI patients, compared to 57.0% in healthy controls; the difference was not significant. The allelic frequencies of *CYP1A2**2, *CYP1A2**7, *CYP1A2**9, and *CYP1A2**11 were too low to be detected. The frequency of the *CYP1A2**1C mutation in Chinese

patients with *P. multiflorum*-induced acute liver injury differed from that in healthy Chinese people, indicating that *CYP1A2**1C is probably related to metabolism of *P. multiflorum*, which is followed by acute liver injury.

Key words: CYP1A2; Drug-induced liver injury; Gene polymorphism; *Polygonum multiflorum*