



Relationship between the *TaqI* B polymorphism of the cholesterol ester transfer protein gene and atrial fibrillation in Han and Kazak populations

M. Bakeyi¹, M. Wulasihan¹, W.H. Lu^{1,2}, Y.C. Yang¹, J. Li¹, Z.Q. Liu¹ and P.Y. He¹

¹Department of Cardiology, First Affiliated Hospital of Xinjiang Medical University, Urumqi, China

²Research Institution of Cardiology, First Affiliated Hospital of Xinjiang Medical University, Urumqi, China

Corresponding author: M. Wulasihan
E-mail: muhuyati@163.com

Genet. Mol. Res. 13 (4): 9300-9307 (2014)

Received May 21, 2013

Accepted December 19, 2013

Published February 14, 2014

DOI <http://dx.doi.org/10.4238/2014.February.14.4>

ABSTRACT. The *TaqI* B polymorphism in the cholesterol ester transfer protein (CETP) (B1 and B2 alleles; rs708272) is associated with changes in enzyme activity and lipid concentrations. The B1 allele of the CETP gene is a known independent risk factor for genetic susceptibility to atrial fibrillation (AF); however, little is known about this polymorphism in the minority groups of Xinjiang, China. We examined the role of this polymorphism in AF using two independent case-control studies: the Han population (101 AF patients and 129 control subjects) and the Kazak population (103 AF patients and 101 control subjects). Carriers of the B1B1 genotype were more frequent among AF patients than among controls both in the Han population (34.7 versus 26.4%; $\chi^2 = 10.686$, $P = 0.001$) and in the Kazak population (53.4 versus 24.8%; $\chi^2 = 27.802$, $P < 0.001$). The odds ratio (OR) for carriers of the B1B1 genotype to

AF susceptibility was 0.187 [95% confidence interval (CI) = 0.071-0.491] in the Han group and 8.426 (95%CI = 2.295-30.933) in the Kazak population. After adjustment of confounding factors such as gender, age, smoking, alcohol consumption, hypertension, diabetes, as well as serum levels of triglyceride, total cholesterol, and high-density lipoprotein, the difference remained significant in the Han group (P = 0.001; OR = 0.187, 95%CI = 0.071-0.491) and in the Kazak group (P = 0.001; OR = 8.426, 95%CI = 2.295-30.933). The presence of the B1B1 polymorphism of the *Taq1B* CETP genotype contributes to the development of AF in the Han and Kazak populations in western China (Xinjiang).

Key words: Atrial fibrillation; CETP; Polymorphism; Polymerase chain reaction-restriction fragment length polymorphism