Relationship between polymorphism of SOCS-3 and dyslipidemia in China Xinjiang Uygur

X.G. Yao, J. Meng, L. Zhou, N. Lin, J. Hong, M. Heizhati and N.F. Li

Hypertension Institute of Xinjiang China, Hypertension Center of the People’s Hospital of Xinjiang Uygur Autonomous Region, Urumqi, Xinjiang, China

Corresponding author: N.F. Li
E-mail: Inanfang2010@sina.com.cn

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ABSTRACT. We investigated the relationship between the polymorphism of SOCS-3 and dyslipidemia of people from Uygur in Xinjiang, China. This cross-sectional study included 1379 participants in a Hetian Xinjiang Uygur population who were 30-70 years of age and were not from interracial marriages of 3 generations; all subjects were genotyped (909 dyslipidemia subjects, 470 healthy subjects). Allele (P = 0.002) and genotype (P = 0.003) frequencies of the distribution of rs12953258 was significantly different between dyslipidemia and control groups. Between the total cholesterol abnormal and control groups, high-density lipoprotein cholesterol abnormal and control groups, triglycerides abnormal and control groups, the frequencies of genotype in rs12953258 were significantly different (P = 0.007, 0.012, 0.0004, respectively). Based on the logistic regression analysis, genotype CA and AA of rs12953258 were independent and risk factors for dyslipidemia in Uygur (CC vs CA; odds ratio = 1.48, 95% confidence interval = 1.11-1.98, P = 0.008), (CC vs AA; odds ratio = 2.48, 95% confidence interval 1.07-5.79, P = 0.035). Genotype AA of rs12953258 merged with subjects whose waist-to-hip ratio was abnormal, indicating the presence of dyslipidemia. The frequency of haplotype 4(H4) A-G-C
in the dyslipidemia group was higher than in the control group (8.44 vs 5.37%, P = 0.003). rs12953258 site of the SOCS-3 gene showed a close relationship with dyslipidemia in Uygur. Combining genotype AA with subjects whose waist-to-hip ratios were abnormal will increase prevalence of dyslipidemia obviously.

**Key words:** Dyslipidemia; Metabolic syndrome; SOCS-3 gene