Association of the Common Genetic Variant Upstream of *INSIG2* Gene with Obesity Related Phenotypes in Chinese Children and Adolescents

HAI-JUN WANG*, ‡, HENG ZHANG*, SHI-WEI ZHANG*, YONG-PING PAN†, and JUN MA*‡

*Department of Maternal and Child Health, School of Public Health, Peking University, Beijing 100191, China; ‡Institute of Child and Adolescent Health, Peking University, Beijing 100191, China; †Key Laboratory of Epidemiology, Ministry of Education, China; §Dongcheng School Health Care Institute, Beijing 100005, China

**Objective** To study the association between the rs7566605 variant of *INSIG2* and obesity-related phenotypes in Chinese children and adolescents. **Methods** The study sample consisted of two independent cohorts of Chinese children and adolescents. Anthropometric indices, lipids, blood pressure, fasting glucose, insulin and percentage of fat mass were determined. PCR with restriction fragment length polymorphism analysis was performed for genotyping the rs7566605 variant. **Results** In each of the two independent cohorts, no significant association was observed between rs7566605 and obesity under additive, dominant or recessive model. We also did not detect any difference in the genotype frequency between all the obese children and controls. Furthermore, we did not find evidence of an association between body composition indices and metabolic phenotypes in all children. However, the triglyceride level of CC homozygotes was significantly higher than that of GG+GC genotypes in obese children (P=0.022). Additionally, we observed a non-significant trend of severe obesity in a post-hoc test. **Conclusion** rs7566605 variant is not associated with obesity in two independent cohorts. Further study is needed to verify the effect of rs7566605 on triglyceride in obese children.

**Key words:** *INSIG2* gene; Obesity-related phenotypes; Children and adolescents

REFERENCES


*This research was supported by the grant from National Natural Science Foundation of China (30700668), Specialized Research Fund for the Doctoral Program of Higher Education (20070001811), and the Major State Basic Research and Development Program of China (973 program) (2006CB503900).* 

*Correspondence should be addressed to Jun MA, Institute of Child and Adolescent Health, Peking University, 38 Xueyuan Road, Beijing 10100191, China. Tel: 86-10-82801624. Fax: 86-10-8280178. E-mail: majunt@bjmu.edu.cn.

Biographical note of the first author: Hai-Jun WANG, female, born in 1973, Ph.D., associate professor at Department of Maternal and Child Health, School of Public Health, Peking University, majoring in maternal and child health, especially genetics of childhood obesity.

Copyright © 2008 by China CDC

(Received July 20, 2008 Accepted October 19, 2008)