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Genetic variants associated with changes of body mass index in Korean adults from Anseong/ASAN cohort

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While studies in the past have responded to the growing epidemic of obesity by examining the relationship between obesity and genetics, little research has been done on the connection between obesity and long-term changes in Body Mass Index (BMI). The purpose of the present study is to investigate the relationship between the changes of BMI and genetic polymorphisms. In order to examine this relationship, the 10,030 cases of the Anseong and Ansan cohorts were collected from the Korean Genome and Epidemiology Study (KoGES) conducted by the Korean National Institute of Health between 2000 and 2014. Cases were withdrawn if they did not provide information on the subject's BMI throughout the study, which finally resulted in a sample size of 3,074 cases. Their genetic data were obtained using HumanExome BeadChip which included 242,901 polymorphisms. Relationship between changes of BMI and genetic polymorphisms was examined using PLINK and STRING and DAVID program was performed for function study. For each group, statistically significant differences were confirmed in *AEN, ANKS1B, CSF1, EEF2K, FRAS1, GRIK4, PDGFC, THTPA* and *TREH* and a clustering of genes associated with the pathway of type-2 diabetes, cardiovascular disease and metabolic pathways were discovered. These results show that specific genetic variants are associated with increases and decreases in BMI.

Biography

Sang Wook Kang has expertise in oral pathology. Based on his years of clinical and research experience, he is conducting research on diseases that can affect the dental field. He is currently focusing on genetic-based research using next generation sequencing.

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