

Estudios científicos

Nutrigenetics studies

Fatty acid binding protein 2 (FABP-2) polymorphism, obesity and insulin resistance.

The genetic components of insulin – resistance, diabetes and obesity have been largely studied. These conditions are determined by multiple polygenic and environmental factors. Certain candidate genes, that have common functional variants in the general population, may be important determinants of inter-individual differences in the response to dietary changes. This review focuses in one of the major candidate genes, the gene encoding for the FABP2, an intracellular protein expressed flux of dietary fatty acids (FA) into the circulation, among carriers of FABP2 Ala54Thr, supports a role of the polymorphism in different populations fluctuate between 18% and 40%. FABP2 Ala54Thr variant has been associated with and increased fasting insulin concentration, fasting fatty acid oxidation and reduced glucose uptake. This evidence, although not conclusive, sustains an association between FABP-2 genotype and metabolic.

Albala B. C, Jiménez R. B, Pérez B. F, Liberman G. C. [Fatty acid binding protein 2 (FABP-2) polymorphism, obesity and insulin resistance]. *Revista Medica de Chile*. 2006. Mar; 134(3):372-379. DOI: 10.4067/s0034-98872006000300017. <https://europepmc.org/article/med/16676113>

Estudios científicos

Adiponectin SNP276 is associated with obesity, the metabolic syndrome, and diabetes in the elderly.

Background: Genetic variations of the human adiponectin gene are associated with metabolic phenotypes, including obesity, insulin sensitivity, and diabetes. However, these associations have not been examined in an elderly population.

Objective: The objective of the study was to investigate whether the genetic variants of adiponectin are associated with any metabolic phenotype in the elderly.

Results: The *G* allele of SNP276 in intron 2 was associated with a reduced risk of obesity, MetS, and diabetes mellitus. The *GT* genotype relative to the *GG* genotype had an age- and sex-adjusted odds ratio of 1.32 for obesity [body mass index (BMI; in kg/m²) ≥ 25; P= 0.014] and of 1.33 (P=0.011) and 1.47 (P=0.001) for MetS according to modified National Cholesterol Education Program and International Diabetes Federation criteria, respectively. The age-, sex-, and BMI-adjusted odds ratio of diabetes mellitus for the *GT* and *TT* genotypes were associated with fasting plasma glucose concentrations 5.2 and 11.1 mg/dL higher, respectively, than those of the *GG* genotype.

Conclusions: Genetic variation of the adiponectin gene is associated with obesity, MetS, and diabetes mellitus in the elderly. The genetic effect on diabetes mellitus is partially independent of BMI.

Wei-Shiung Yang, Yi-Ching Yang, Chi-Ling Chen, I-Ling Wu, Jin-Ying Lu, Feng-Hwa Lu, Tong-Yuan Tai, Chih-Jen Chang, Adiponectin NSP276 is associated with obesity, the metabolic syndrome, and diabetes in the elderly, *The American Journal of Clinical Nutrition*, Volume 86, Issue 2, August 2007, Pages 509-513.
<https://academic.oup.com/ajcn/article/86/2/509/4632964>