

Genetic contributors to serum uric acid levels in Mexicans and their effect on premature coronary artery disease

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© 2018 Elsevier B.V. Background: Serum uric acid (SUA) is a heritable trait associated with cardiovascular risk factors and coronary artery disease (CAD). Genome wide association studies (GWAS) have identified several genes associated with SUA, mainly in European populations. However, to date there are few GWAS in Latino populations, and the role of SUA-associated single nucleotide polymorphisms (SNPs) in cardiovascular disease has not been studied in the Mexican population. Methods: We performed genome-wide SUA association study in 2153 Mexican children and adults, evaluated whether genetic effects were modified by sex and obesity, and used a Mendelian randomization approach in an independent cohort to study the role of SUA modifying genetic variants in premature CAD. Results: Only two loci were associated with SUA levels: SLC2A9 ($\beta = 0.47$ mg/dl, $P = 1.57 \times 10^{-42}$ for lead SNP rs7678287) and ABCG2 ($\beta = 0.23$ mg/dl, $P = 2.42 \times 10^{-10}$ for lead SNP rs2231142). No significant interaction bet