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Resumo	Several proteins are involved in cholesterol homeostasis, as scavenger receptor class B type I and ATP-binding cassette (ABC) transporters including ABCA1, ABCG1, ABCG5, and ABCG8. This study aimed to determine the effects of single nucleotide variants (SNVs) rs2275543 (ABCA1), rs1893590 (ABCG1), rs6720173 (ABCG5), rs6544718 (ABCG8), and rs5888 (SCARB1) on plasma lipids, lipoproteins, and adiposity markers in an asymptomatic population and its sex-specific effects. Volunteers (n = 590) were selected and plasma lipids, lipoproteins, and adiposity markers (waist-to-hip and waist-to-height ratios, lipid accumulation product and body adiposity index) were measured. Genomic DNA was isolated from peripheral blood cells according to the method adapted from Gross-Bellard. SNVs were detected in the TaqMan® OpenArray® Real-Time polymerase chain reaction platform and data analyses were performed using the TaqMan® Genotyper Software. The rs2275543*C point to an increase of high-density lipoprotein size in females while in males very-low-density lipoprotein, cholesterol, and triglycerides were statistically lower (P value < 0.05). The rs1893590*C was statistically associated with lower apolipoprotein A-I levels and higher activities of paraoxonase-1 and cholesteryl ester transfer protein (P value < 0.05). The rs6720173 was statistically associated with an increase in cholesterol and low-density lipoprotein cholesterol in males; moreover, rs6544718*T reduced adiposity markers in females (P value < 0.05). Regarding the rs5888, a decreased adiposity marker in the total population and in

	females occurred (P value < 0.05). Multivariate analysis of variance showed that SNVs could influence components of high-density lipoprotein metabolism, mainly through ABCG1 (P value < 0.05). The ABCA1 and ABCG5 variants showed sex-specific effects on lipids and lipoproteins, while SCARB1 and ABCG8 variants might influence adiposity markers in females. Our data indicate a possible role of ABCG1 on HDL metabolism.
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