Introduction: Uncoupling proteins (UCPs) represent a family of carrier proteins located in the mitochondrial membrane, involved in the metabolism energy cells and may increase the energy expenditure and decrease the body weight. The Ala55Val polymorphism in the UCP2 gene (C>T) can be associated with the weight loss. This study aimed to investigate the association of the Ala55Val polymorphism with weight loss after bariatric surgery.

Methods: The sample was composed of individuals with grade III obesity undergoing Roux-en Y gastric bypass. Anthropometric data were collected in preoperative period and three years after surgery. Genotyping was performed by the method of allelic discrimination in real time PCR (polymerase chain reaction) using the TaqMan pre-designed SNP genotyping assays kits. Individuals with at least one variant allele were grouped and compared with those with the reference genotype.

Results: 143 subjects (79% females, 21% males, mean age 40±10 years) participated in the study. Genotyping showed 36.4% (n=52) of individuals homozygous for the C allele (C/C), 39.2% (n=56) heterozygous (C/T) and 24.4% homozygous for the mutant T allele (T/T). Individuals with the C/C, C/T and T/T genotypes respectively showed a loss of 55.8±17.4, 55.3±21.2 and 52.7±14.3 kg; 37.7±9.4, 38.6±11.6 and 39±7.8% of initial weight and 66.3±17, 68.6±20.8 and 70±12.8% of excess body weight. There was no difference in weight loss between the different genotypes groups.

Conclusion: The UPC2 Ala55Val genotype seems to have no association with weight loss three years after bariatric surgery.

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