Pro12Ala polymorphism and its relation to body composition 12 months after Roux en Y gastric bypass

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Introduction: The PPARg2 gene expressed in adipose tissue, participates in the regulation of adipogenesis. This study aimed to investigate the association between Pro12Ala (C>G) polymorphism and variation in body composition after Roux en Y gastric bypass (RYGB).

Methods: Weight and body composition were evaluated preoperatively and 12 months after surgery. Electric bioimpedance was used to determine resistance, reactance, fat free mass (FFM) and fat mass (FM). Genotyping was performed by allelic discrimination in real-time polymerase chain reaction using pre-designed TaqMan SNP genotyping assays kits.

Results: 83 subjects (78.3% women, 21.7% men, mean aged 41.4±10.5 years) were evaluated. There was reduction in values of weight (140.8±23.9 to 93.3±17.5 kg), reactance (48.9±13.6 to 36.7±9.3 Ohm), FFM (63.8±7.9 to 54.6±6.3 kg) and FM (77.0±16.8 to 38.7±12.1 kg) between periods. There was no change in resistance values. Genotyping showed 78.3% homozygous for the C allele and 21.7% heterozygous. Individuals C/C and C/G have weight, FFM and FM similar preoperatively. Individuals C/C showed loss of 9.5±3.8 kg FFM and 38.2±11.3 kg of FM, while individuals C/G showed loss of 7.8±2.9 kg and 38.9±9.5 kg, respectively. There was no difference in changes in body composition in the different genotypes.

Conclusion: The Pro12Ala polymorphism was not associated with loss of FFM and FM after 12 months of RYGB.

Financial support: FAPESP and CNPq
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