Abstract

Background: The maintenance of weight loss may be influenced by the distribution of macronutrients in the diet and insulin sensitivity. Objective: The objective of the study was to evaluate the long-term effect of two hypocaloric diets with different protein/carbohydrate ratios in overweight and obese individuals either with insulin resistance (IR) or without insulin resistance (IS). Design: Prospective, randomized, clinical intervention study. Forty patients were classified as IR/IS after a 75 g oral glucose tolerance test and then randomized to a diet with either 40% carbohydrate/30% protein/30% fat (diet A) or 55% carbohydrate/15% protein/30% fat (diet B). Results: After one year of follow-up there was no difference in weight loss between diets A and B in each group, but the IS group maintained weight loss better than the IR group [-5.7 (3.9) vs. -0.6 (4.1); P = 0.04]. No differences were found in either Homeostasis Model Assessment (HOMA) or other metabolic glucose parameters except lower insulin at 120 minutes with diet A [21.40 (8.30) vs. 71.40 (17.11); P = 0.02]. Conclusions: The hypocaloric diets with different protein/carbohydrate ratios produced similar changes in weight. Insulin resistance may play a negative role in maintaining weight loss.

Keywords

Insulin resistance, Carbohydrates, Proteins, Diet.