CLA AND/OR PHYTOSTEROL, ADDED TO DIET-INDUCED OBESITY, MODULATED BODY FAT AND REGULATED SATIETY HORMONES IN SPRAGUE-DAWLEY RATS.

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The imbalance between caloric intake and energy expenditure leads to hyperplasia and hypertrophy in adipocytes. This study aimed to determine regulated satiety hormones of Sprague-Dawley rats fed with high-fat diet and to weight the epididymal and retroperitoneal fat tissue. Twenty-one-days-old Sprague-Dawley rats were divided into five groups (n=5): Standard group (P), Standard High-Fat group (HF), and three high-fat groups fed diets added CLA (HC), phytosterol (HP) and CLA plus phytosterols (HS). The experimental period lasted 65 days. Hormones insulin, adiponectin, ghrelin and leptin were determinate, in serum of rats, using commercial kits. Comparing the HF group to the others, adiponectin decreased 11% and insulin increase 12% in HS group (p<0.0001). Leptin decreased 22% in HC and 10% in HS (p<0.0001).

Ghrelin, among all the high fat groups, did not presented difference. The epididymal fat content decreased 25% in HC, 43% in HP, and 45% in HS group (p<0.0001). On the other hand, fat retroperitoneal decreased 52% in HC, 40% in HP and 53,5% in HS. Probably, these diminishments of the fat tissue weight is due to modulation peroxisome proliferator-activated receptors gamma in adiposity tissue in HC and HS group, as well as CLA that led to the reduction of leptin, reverting the situation in obesity. On the other hand, the insulin increased significantly in HF, HC and HS group, but not in HP (p<0.05). CLA and phytosterol have contributed to the reduction of the risk of developing cardiovascular diseases, but CLA has not reverted the increase of insulin.

Key words: Diet high-fat, CLA, phytosterol, body fat, regulate satiety hormones