Abstract

Introduction: Previous studies have found that L-arginine induced beneficial effects over insulin resistance both in type 2 diabetes mellitus patients and healthy individuals. The aim of our study was to investigate whether an L-arginine enteral supplementation (20 g per day) in head and neck cancer patients could modify insulin resistance, leptin and adiponectin levels after surgery.

Material and Methods: At surgery 82 patients were randomly allocated to two groups: group I received an enteral diet supplements with a high dose of arginine (20g per day) and group II received an enteral formula without arginine. At basal time and on postoperative day 10, the following parameters were recorded: glucose, c-reactive protein, insulin, HOMA (homeostasis model assessment), leptin and adiponectin. Results: Values of weight, body mass index, fat mass and fat free mass remained unchanged during the acute nutritional intervention in both groups. Insulin levels UI/L (-0.21+/-.0.18) and HOMA units (-0.07+/-.0.13) decreased in the arginine group. Adiponectin levels (+1.8+/-.2.3ng/ml) increased in the arginine group. Conclusion: Short-term enteral L-arginine therapy added to usual enteral nutrition of patients affected by head and neck cancer and surgery without diabetes mellitus type 2 is able to improve insulin resistance and adiponectin levels.

Keywords
Adiponectin, Arginine, Head and neck cancer, insulin resistance, leptin.