Aim: This study analyzed the metabolic effects of dietary advice to follow calorie-restricted low-glycaemic index diet with metformin in overweight/obese impaired glucose tolerance subjects. Methods: Sixteen subjects with body mass index between 27-38 kg/m² were followed monthly for 16 weeks and treated with metformin (1 g/day) and dietary prescription for low-glycaemic index diet with energy reduction of 25-30% their total energy expenditure. Glucose metabolism, lipid profile, anthropometric and body composition, and food intake parameters were measured before and after the treatment. Paired t-tests/Wilcoxon tests were used to compare differences from baseline, with a statistical significance criterion of p < 0.05. Results: There were significant reductions in anthropometric and body composition parameters, decrease in HOMA2-% and triglycerides concentrations, and increase in Cederholm index. These results show enhanced peripheral insulin sensitivity and preservation of pancreatic beta-cell function. Conclusion: Calorie-restricted low-glycaemic index diet and metformin was benefit to metabolic and anthropometric parameters in overweight/obese subjects with impaired glucose tolerance.

Keywords
Glycemic index, Caloric Restriction, Glucose, Metformin, Type 2 diabetes mellitus.