

## Improvement of Cardiometabolic after 8 Weeks of Weight Loss Intervention

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**Abstract :** Lifestyle interventions can prevent the deterioration of impaired glucose tolerance to manifest type 2 diabetes, and also prevent cardiovascular diseases, as it showed many studies (the Finnish Diabetes Prevention Study, Diabetes Prevention Program (DPP), . the China Da Qing Diabetes Prevention Study, etc.) Therefore the aim of our study was to compare the effect of intensified lifestyle intervention on cardiometabolic parameters. Methods: It is an ongoing randomized interventional clinical study (NCT02325804) focused on the reduction of body weight/fat. Intervention: hypocaloric diet (30% restriction of calories) and physical activity 150 minutes/week. Before and after 8 weeks of intervention all patients underwent complete medical examination (measurement of physical fitness, resting metabolic rate (RMR), body composition analysis, oral glucose tolerance test, parameters of lipid metabolism, and other cardiometabolic risk factors. Results: So far 39 patients finished the intervention. The average reduction of body weight was 6,8 + 4,9 kg (0-15 kg;  $p=0,0006$ ), accompanied with significant reduction of body fat percentage ( $p \leq 0,0001$ ), amount of fat mass ( $p=0,03$ ), waist circumference ( $p=0,02$ ). Amount of lean mass and RMR remained unchanged. Heart rate ( $p=0,02$ ), systolic and diastolic blood pressure was reduced ( $p=0,01$   $p=0,02$  resp.) as well as insulin sensitivity was improved. Lipid parameters also changed - cholesterol, LDL decreased ( $p=0,05$ ,  $p=0,04$  resp.), while triglycerides showed tendency to decrease ( $p=0,055$ ). Liver function improved, alanine aminotransferase (ALT) were reduced ( $p=0,01$ ). Physical fitness significantly improved (as measure  $VO_2$  max ( $p=0,02$ ). Conclusion: Results of our study are in line with previous results about the beneficial effect of intensive lifestyle changes on the reduction of cardiometabolic risk factors and improvement of liver function. Supported by grants APVV 15-0228; VEGA 2/0161/16

**Keywords :** obesity, weight loss, diet lipids, blood pressure, liver enzymes

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