

The Effect of a Very Low Carbohydrate Diet on Residual Dyslipidemia in Statin Treated Overweight Patients

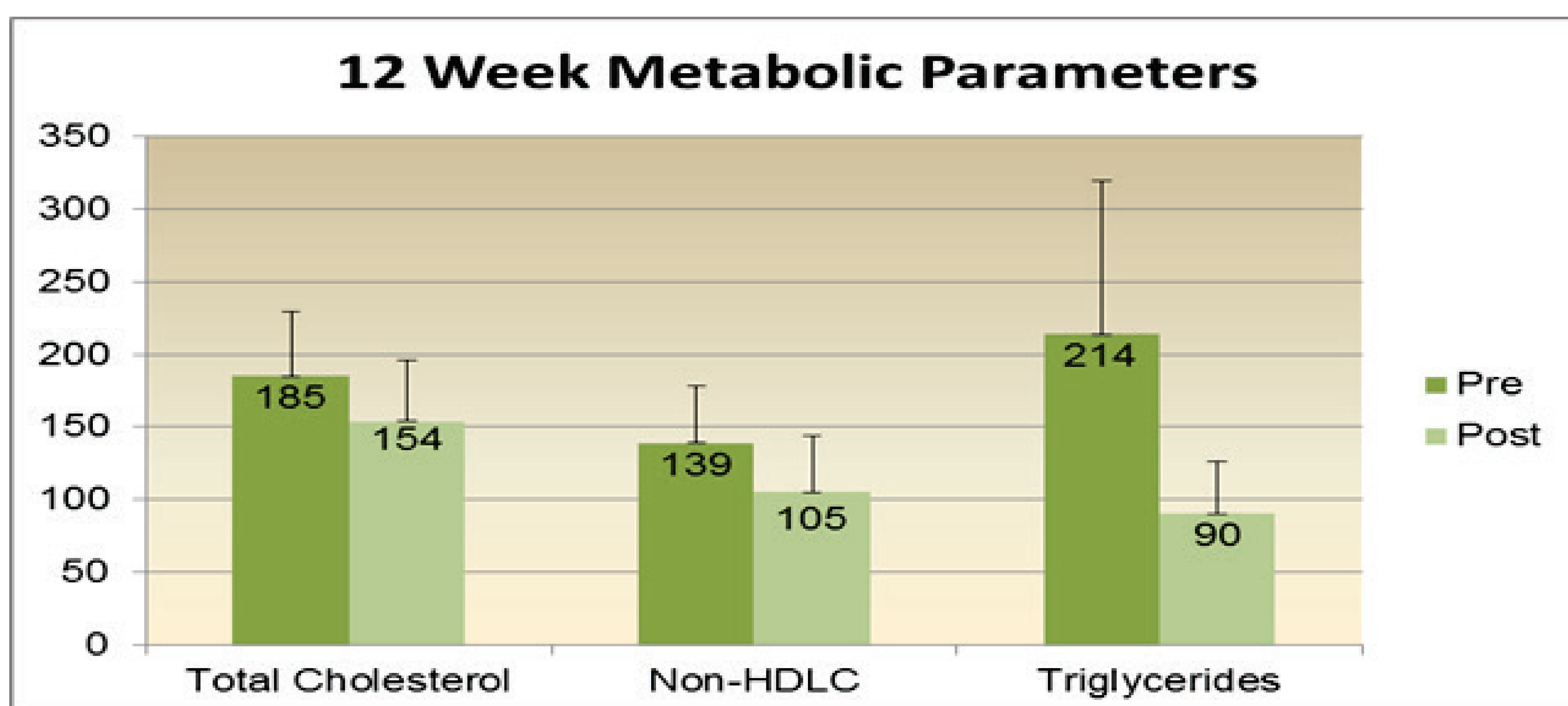
By: Dr. Timothy Logemann, MD; David K. Murdock, MD, MS, FACC, FACP, FSCAI; Kelly O'Heron, RD & Adam Hoffmann

Intro: Obesity, hypercholesterolemia, and hypertriglyceridemia are potent, independent risk factors for the development of cardiovascular (CV) disease. Statin agents significantly improve dyslipidemias but frequently do not achieve the desired goal leaving residual dyslipidemias and CV risk. Low carbohydrate diets can lead to weight loss, lower total cholesterol (TC), lower non-high density lipoprotein cholesterol (non-HDLC) and lower triglycerides (TG). We sought to determine the effectiveness of a very low carbohydrate diet on weight loss and the residual dyslipidemias in statin treated patients.

Methods: 40 patients who were on statin therapy and had residual dyslipidemia, defined as TC greater than 200, non-HDLC greater than 160, or TG greater than 150, started on a very low carbohydrate diet as part of the Ideal Protein Weight Loss Method (IPWLM). The IPWLM is a 4 stage, partial meal supplement, ketogenic diet that has low carbohydrate, low fat, and normal protein intake. Lipids were measured before and again 12 weeks after starting the program. Weight and waist measurements were also measured. A statistical paired t-test was performed on all data sets.

Results: 36 patients completed at least 12 weeks of this diet for a 90% compliance rate. Weight and waist size decreased from 255.3±40.5 to 219.5±34.5 lbs ($p<0.001$) and 49.2±4.8 to 43.6±4.4 inches ($p<0.001$), respectively. TC fell from 185.1±44.3 to 153.6±41.7 mg/dl ($p<0.001$) while non-HDLC also fell from 139.3±39.3 to 104.8±38.7 mg/dl ($p<0.001$). TG had a significant drop from 213.8±105.9 to 90.1±36.6 mg/dl ($p<0.001$). The effect of the IPWLM on lipid parameters is listed in the graph below.

Conclusion: The IPWLM has powerful effect on lipid abnormalities and can significantly improve the residual dyslipidemia in statin treated patients. Further investigation and long term results of the role of very low carbohydrate diet on treating residual dyslipidemias are indicated.



Effect of the Ideal Protein Weight Loss Method on Weight Loss and Metabolic Parameters

By: Dr. Timothy Logemann, MD; David K. Murdock, MD, MS, FACC, FACP, FSCAI; Kelly O’Heron, RD & Adam Hoffmann

Background: Obesity is a national health crisis. The Ideal Protein Weight Loss Method (IPWLM) is a 4 stage, low carbohydrate, ketogenic diet that promotes weight loss. Stage 1 of IPWLM is a partial meal replacement, low carbohydrate, low fat, normal protein diet of about 1,200 calories and 40 grams of carbohydrate daily, resulting in ketosis. This stage is continued until target weight is achieved. We sought to quantify the 12 week results of this program in a large population in terms of weight loss, and also its effect on metabolic parameters.

Method: 272 patients enrolled in the IPWLM. Weekly meetings were encouraged with a health coach to review progress and compliance. Patients consume 3-5 Ideal Protein products per day based on their weight, vitamin and mineral supplements, 4 cups low carbohydrate vegetables, 8 oz of lean protein and lettuce. The patients’ had weight, waist size, body mass index (BMI), blood pressure (BP), total cholesterol (TC), high-density lipoprotein (HDL), low-density lipoprotein (LDL), triglyceride, and glucose levels collected prior to starting the IPWLM and after 12-weeks on the diet. A statistical paired t-test was performed on all measurements.

Results: 233 patients completed the 12 weeks which is a compliancy rate of 85.7%. The results show a decrease in all categories except HDL. Males averaged a loss of 3.5 pounds per week (PPW) and females 2.5 PPW. Average weight went from 228.4±47.8 to 195.0±41.8 lbs. Average waist size decreased from 45.2±6.2 to 39.9±5.9 inches and BMI dropped from 36.5±6.3 to 31.1±5.7. The systolic BP decreased from 126.2±15.9 to 115.4±13.8 mmHg and diastolic was reduced from 80.0±9.4 to 73.3±9.7 mmHg. TC decreased 184.0±38.8 to 158.2±35.8 mg/dl, LDL from 106.2±33.9 to 91.6±29.9 mg/dl, triglycerides from 129.9±73.5 to 71.3±38.6 mg/dl, and glucose from 110.8±35.8 to 96.3±12.5 mg/dl (p<0.001 for all changes). HDL levels had no significant change (p<0.779).

Conclusion: The IPWLM results in rapid weight loss, and marked improvement in metabolic parameters in a short period of time. Further investigation of the IPWLM on individual and population health and long term results are indicated.

