

Same Weight Loss, Better BP with Low-Carb Diet

vs. Drug/Diet Combo

A new randomized trial comparing a low-carbohydrate diet with a low-fat diet in combination with the weight-loss drug **orlistat** has found that both strategies produced meaningful weight loss among hospital outpatients over a one-year period [1]. Strikingly, however, the low-carb diet appeared to produce significant improvements in blood pressure.

Almost 10% Weight Loss at One Year

The study randomized 146 overweight or obese outpatients (mean age 52, mean body-mass index [BMI] 39.3) to either a low-carbohydrate, ketogenic diet, or to orlistat (120 mg, three times daily) and a low-fat diet over 48 weeks, with regular group meetings to boost diet adherence. At the end of the study period, weight loss was similar in both groups, at roughly 10% (approximately 20 to 25 pounds). Of note, almost 80% of the low-carb group and almost 90% of the orlistat/low-fat group completed the full 48-week follow-up.

Improvements in high-density lipoprotein (HDL) cholesterol and triglycerides were seen in both groups, low-density lipoprotein (LDL) cholesterol levels improved in the orlistat/low-fat diet group only, while glucose, insulin, and hemoglobin A_{1c} (HbA_{1c}) levels improved in the low-carb group only, although none of these differences were statistically meaningful. By contrast, both systolic and diastolic blood-pressure levels declined in the low-carb group only, a statistically significant difference between weight-loss groups.

It's not surprising that the blood pressure improved because this is common in weight-loss trials. But it was surprising that, with similar weight loss, blood pressure would improve more in one group than the other. While there are a number of explanations for the blood-pressure differences between weight-loss strategies, it was speculated that it might be related to the known diuretic effect of low-carb diets.

In another important finding, the study pointed out that while a small number of study participants initiated hypertension or diabetes medications over the course of the study in both diet groups, a much higher number actually decreased or discontinued their dosages, with a higher proportion of patients discontinuing or lowering their dosages in the low-carb group.

References

1. Yancy Jr WS, Westman EC, McDuffie JR, et al. A randomized trial of a low-carbohydrate diet vs orlistat plus a low-fat diet for weight loss. *Arch Intern Med* 2010; 170:136-145.