American Journal of Clinical Nutrition, Vol. 85, No. 3, 735-741, March 2007

ORIGINAL RESEARCH COMMUNICATION

Soy inclusion in the diet improves features of the metabolic syndrome: a randomized crossover study in postmenopausal women[1,2,3]

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Background: Little evidence exists regarding the effects of soy consumption on the metabolic syndrome in humans.

Objective: We aimed to determine the effects of soy consumption on components of the metabolic syndrome, plasma lipids, lipoproteins, insulin resistance, and glycemic control in postmenopausal women with the metabolic syndrome.

Design: This randomized crossover clinical trial was undertaken in 42 postmenopausal women with the metabolic syndrome. Participants were randomly assigned to consume a control diet (Dietary Approaches to Stop Hypertension, DASH), a soy-protein diet, or a soy-nut diet, each for 8 wk. Red meat in the DASH period was replaced by soy-protein in the soy-protein period and by soy-nut in the soy-nut period.

Results: The soy-nut regimen decreased the homeostasis model of assessment-insulin resistance score significantly compared with the soy-protein (difference in percentage change: −7.4 ± 0.8; $P < 0.01$) or control (−12.9 ± 0.9; $P < 0.01$) diets. Consumption of soy-nut also reduced fasting plasma glucose more significantly than did the soy-protein (−5.3 ± 0.5%; $P < 0.01$) or control (−5.1 ± 0.6%; $P < 0.01$) diet. The soy-nut regimen decreased LDL cholesterol more than did the soy-protein period (−5.0 ± 0.6%; $P < 0.01$) and the control (−9.5 ± 0.6%; $P < 0.01$) diet. Soy-nut consumption significantly reduced serum C-peptide concentrations compared with control diet (−8.0 ± 2.1; $P < 0.01$), but consumption of soy-protein did not.

Conclusion: Short-term soy-nut consumption improved glycemic control and lipid profiles in postmenopausal women with the metabolic syndrome.

Key Words: Metabolic syndrome • insulin resistance • soy • glycemic control • lipid profiles

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