Almonds ameliorate glycemic control in Chinese patients with better controlled type 2 diabetes: a randomized, crossover, controlled feeding trial.

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Abstract:
Background: Almonds can decrease glycemic index of co-consumed foods and are a rich source for oleic acid and α-tocopherol. The aim of the randomized, crossover, controlled feeding trial was to examine whether as compared to NCEP step II diet as control (CON), ~60 g/d almonds (ALM) added to CON would improve glucoregulation and cardiovascular disease (CVD) risk factors in 33 Chinese T2DM patients. Methods: Forty T2DM patients were enrolled and randomly assigned to receive CON or ALM for 12 wks after a 2-wk. run-in period. Blood and urine samples were collected in the beginning and at the end of each dietary intervention phase for the assessment of biomarkers of glucoregulation, lipid profile, inflammation, and oxidative stress. Results: While ALM had a better overall nutritional quality than CON, neither ALM nor CON improved the glycemic status as the primary study outcome and other CVD risk factors, except the circulating nitric oxide being decreased by ALM compared to CON. Among 27 of 33 patients with the baseline HbA1c ≤8, ALM decreased post-interventional fasting serum glucose and HbA1c by 5.9% and 3.0% as compared to that of CON, respectively (P = 0.01 and 0.04). Mean total and LDL-cholesterol concentrations were not changed by both diets. Conclusions: These results suggest almonds incorporated into healthful diets can improve glycemic status in diabetic patients with a better glycemic control.