



COMMENT ON QIAN ET AL.

Metabolic Effects of Monounsaturated Fatty Acid–Enriched Diets Compared With Carbohydrate or Polyunsaturated Fatty Acid–Enriched Diets in Patients With Type 2 Diabetes: A Systematic Review and Meta-analysis of Randomized Controlled Trials. *Diabetes Care* 2016;39:1448–1457

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We read with great interest the meta-analysis by Qian et al. (1). The authors showed consistent evidence that replacing carbohydrates with monounsaturated fatty acids (MUFA) has beneficial effects on metabolic risk factors in patients with type 2 diabetes (T2D) and concluded that these findings have broad implications for dietary recommendations for this population.

Recently, we summarized the evidence from systematic reviews and meta-analyses regarding the effects of MUFA on cardiometabolic risk (2). In patients with abnormal glucose metabolism and T2D, higher intakes of MUFA were associated with lower triacylglycerol and higher HDL cholesterol levels, as well as improvements in glycemic control parameters such as fasting plasma glucose and glycosylated hemoglobin, quite similar to the findings of Qian et al. (1). A very important statement made by the authors is that evidence from observational studies substituting MUFA for carbohydrates and saturated fatty acids yielded inconsistent results, most likely due to the fact that in the Western diet, MUFA intake is largely based on foods from animal origin

(such as meat) rather than edible plants. In a meta-analysis of 32 cohort studies (3), we showed that MUFA of mixed animal and vegetable sources per se did not yield any significant effects on all-cause mortality and risk of cardiovascular disease. However, providing MUFA via olive oil only was associated with reduced risk of all-cause mortality, stroke, and cardiovascular events (3). With respect to randomized controlled trials, monounsaturated fat–enriched diets resulted in reduced triacylglycerol levels, but did not seem to affect total cholesterol and LDL cholesterol, compared to low-fat diets (4). Using meta-regression models, we showed a dose-response relationship between higher intakes of MUFA and increases in HDL cholesterol in overweight/obese individuals, as well as in patients with abnormal glucose metabolism (4,5).

We strongly agree with the conclusions made by Qian et al. (1): replacement of carbohydrates by MUFA represents a useful dietary tool to improve metabolic risk factors. However, future studies should focus on the topic of whether the origin of MUFA in the diet is crucial for fostering their beneficial effects.

Duality of Interest. No potential conflicts of interest relevant to this article were reported.

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