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**Lower vegetable protein intake and higher dietary acid load associated with lower carbohydrate intake are risk factors for metabolic syndrome in patients with type 2 diabetes: Post-hoc analysis of a cross-sectional study.**

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**AIMS/INTRODUCTION:**

A low-carbohydrate diet based on animal sources is associated with higher all-cause mortality, whereas a vegetable-based low-carbohydrate diet is associated with lower cardiovascular disease mortality. It has been suggested that acid/base imbalance might play an important role in some cardiometabolic abnormalities. The aims of the present study were to evaluate whether carbohydrate intake is associated with quality of dietary protein and acid load, and whether these are related to metabolic syndrome in patients with type 2 diabetes.

**MATERIALS AND METHODS:**

The present cross-sectional study involved 149 patients with type 2 diabetes. Dietary intake was assessed using a validated self-administered diet history questionnaire. Dietary acid load was assessed by potential renal acid load and net endogenous acid production.

**RESULTS:**

Mean daily total energy intake, carbohydrate intake, animal protein intake and vegetable protein intake were 1821.5 kcal, 248.8 g, 36.1 g and 31.1 g, respectively. Carbohydrate energy/total energy was negatively correlated with animal protein energy/total energy, potential renal acid load or net endogenous acid production score, and was positively correlated with vegetable protein energy/total energy. Logistic regression analyses showed that the subgroup of patients with a lower vegetable protein energy/total energy or higher potential renal acid load or net endogenous acid production score was significantly associated with the prevalence of metabolic syndrome.

**CONCLUSIONS:**

The present study showed that carbohydrate intake was associated with the quality of dietary protein and dietary acid load. Furthermore, decreased vegetable protein intake and increased dietary acid load were associated with the prevalence of metabolic syndrome.