

## Effect of Dietary Sodium Intake on the 24-hr Blood Pressure and the Progression of Renal and Vascular Complications

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### Summary

**Objective:** To examine the effect of the amount of dietary salt intake on the short-term variability of blood pressure and renal and cardiovascular outcome in patients with type 2 diabetes.

**Methods:** Variability of blood pressure were analyzed using 24-hr ambulatory blood pressure monitoring in 256 patients. We also performed 24-hr urinary collection in 646 cases and followed up.

**Results:** Cross sectional analysis revealed that variability of blood pressure were not affected by the urinary sodium excretion. In the follow up study (median 12 years), 149 participants developed the primary composite endpoints including renal and cardiovascular outcome. We divided into 4 groups based on urinary sodium excretion or urinary sodium/potassium ratio. Urinary sodium excretion did not affect the renal and cardiovascular outcome. These results indicate that dietary sodium intake was not significantly associated with renal or cardiovascular disease risk in patients with type 2 diabetes. However, patients in the group of the highest sodium/potassium ratio had significantly poorer event-free survival rate as compared with patients in the highest sodium/potassium group. In addition, we found that patients who had consumed the highest levels of potassium (highest urinary potassium excretion) were less likely to develop renal or cardiovascular diseases.

**Conclusion:** Our analysis indicates that high sodium intake is strongly and independently associated with an increased risk of cardiovascular disease and all-cause mortality in overweight persons. There is, however, a correlation between the dietary sodium/potassium ratio and renal-cardiovascular disease. We also found that patients with the highest levels of urinary potassium excretion were less likely to develop renal or cardiovascular diseases than those with the lowest group. These results may indicate that “the best strategy for good health is to eat less sodium and more potassium”