

# Protein loss in the urine harmful for people with high blood pressure

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Healthy people with high blood pressure who excrete a slight excess of protein in the urine raise their risk of developing kidney and heart complications. According to a study appearing in an upcoming issue of the *Clinical Journal of the American Society Nephrology (CJASN)*, more attention should focus on the potential health effects of urinary protein excretion in individuals with high blood pressure (hypertension).

Kidney dysfunction, common in individuals with hypertension, can increase one's risk of developing heart problems and [kidney failure](#). Therefore, doctors should strive to identify and treat the precursors of [kidney dysfunction](#) as a way to maintain hypertensive patients' heart and kidney health.

Research shows that diabetic patients with hypertension who excrete slightly increased amounts of protein in the urine—a condition known as microalbuminuria—have an elevated risk of developing heart and kidney problems. Investigators have wondered whether microalbuminuria (occurring in 10%-30% of individuals, depending on age and clinical conditions) may have similar effects in non-diabetic patients with hypertension.

Over nearly 12 years, Roberto Pontremoli, MD, PhD (University of Genoa, in Italy) and his colleagues followed the health of 917 hypertensive, non-diabetic patients enrolled in the MAGIC (Microalbuminuria: A Genoa Investigation on Complications) study between 1993 and 1997. The investigators found that patients with

microalbuminuria at the start of the study were 7.6-times as likely to develop [chronic kidney disease](#) and 2.1-times as likely to develop [cardiovascular complications](#) (such as heart disease or stroke) compared with individuals without microalbuminuria. Study participants with microalbuminuria also had a 3.2-fold increased risk of developing both kidney and cardiovascular conditions. Even after the researchers considered and adjusted for various patient characteristics that might contribute to health differences (age, [body mass index](#), blood pressure, cholesterol level, and kidney function), individuals with microalbuminuria at the start of the study still had a 2.6-fold increased risk of developing both kidney and cardiovascular problems compared with those without microalbuminuria.

These results demonstrate that microalbuminuria has a profound effect on the health of non-diabetic patients with hypertension. "Our findings emphasize the usefulness of a more widespread evaluation of microalbuminuria in an effort to guide the management of hypertension," said Dr. Pontremoli. Additional research is needed to determine whether specific treatments that are known to improve the health of diabetic patients with microalbuminuria can also help non-diabetic patients.

**More information:** The article, entitled "Microalbuminuria Is a Predictor of Chronic Renal Insufficiency in Patients without Diabetes and with Hypertension: The MAGIC Study," will appear online on April 29, 2010, [doi:10.2215/CJN.07271009](https://doi.org/10.2215/CJN.07271009)

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