Keeping blood pressure in check may benefit some African-Americans with kidney disease

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Keeping blood pressure at a low level in African-Americans with kidney disease may slow the progression of the condition in patients with proteinuria, UT Southwestern Medical Center researchers found in a national study published in *The New England Journal of Medicine*.

In the African-American Study of Kidney Disease and Hypertension, or AASK, trial of 1,094 patients, researchers found that keeping blood pressure readings at about 130/80 mm Hg reduced the risk of disease progression by 27 percent for patients with protein in the urine (proteinuria), which can be a marker for kidney disease. Intensive lowering of blood pressure in all African-Americans with hypertension and kidney disease, however, did not slow disease progression during four years of follow-up.

Overall, lower blood pressure levels had no effect on disease progression to dialysis, kidney transplantation or death when those with and without proteinuria were included.

"We were surprised by the study's finding that more intensive lowering of blood pressure initially did not improve outcomes for most patients," said Dr. Robert Toto, professor of internal medicine and clinical sciences at UT Southwestern and an author of the study. "During the cohort study all patients had their blood pressure lowered to less than 130/80 mm Hg, and we found that those with proteinuria who were assigned to more aggressive blood pressure control during the trial fared better in the long run. We are very proud of the fact that we were able to

extend the results of the trial and learn more about progression of kidney disease in this population.

"Doctors should think about the long-term effects reported in this new study and consider whether it is appropriate to control blood pressure more aggressively in African-American patients with chronic kidney disease who have protein in their urine, and not target all kidney disease patients with a lower blood pressure level. We need more studies on any potential benefits of that practice."

In 2006, treating end-stage kidney disease cost the federal government $23 billion, and chronic kidney disease cost $49 billion. In the U.S., hypertension causes about 30 percent of end-stage kidney disease. African-Americans make up a disproportionate number of patients with end-stage kidney disease attributed to hypertension.

Observational studies have shown that treating kidney-disease patients to help them achieve lower blood pressure has prevented progression to end-stage kidney disease, but few formal trials have tested the idea. In the limited studies that have, African-Americans were not well-represented.

In the current study, patients ranged in age from 18 to 70, with an average age of 55. Nearly 40 percent of the patients were female. The patients came from 21 centers throughout the United States; 77 patients were treated at UT Southwestern.

To test if a lower blood pressure goal would help African-Americans with chronic kidney disease, AASK researchers broke the study into two phases. From 1995 to 1998, patients were randomly assigned 1,094 to receive either intensive blood pressure treatment to reach levels below 130/80 mm Hg, or standard blood pressure control of 140/90 mm Hg. They were monitored for three and six years.

After completion of the trial, a second phase known as the AASK cohort study included patients who were then switched to the same medication, and all eventually had a blood pressure target of 130/80 mm Hg. Blood pressure levels and hypertension were monitored every two years for patients whose disease had not progressed. Some patients were followed for up to 12 years.

Based on evidence emerging from other studies, AASK researchers also analyzed their data based on how much protein was found in each patient's urine. About one-third of patients had protein in the urine.

Among those patients, the risk of disease progression was reduced by 27 percent – a significant difference, Dr. Toto said.

"UT Southwestern was involved in the pilot study back in 1992, as well as in the 12 years of follow-up through the end of the cohort study," Dr. Toto said. "We're at the forefront of ensuring that clinical practice follows evidence."

Provided by UT Southwestern Medical Center

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