Lower blood pressure goal benefits some African-Americans with chronic kidney disease

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On average, a lower blood pressure goal was no better than the standard blood pressure goal at slowing progression of kidney disease among African-Americans who had chronic kidney disease resulting from high blood pressure, according to results of the African-American Study of Kidney Disease and Hypertension (AASK), the largest and longest study of chronic kidney disease (CKD) in African-Americans. However, the blood pressure goal did benefit people who also had protein in the urine, which is a sign of kidney damage. The study, funded by the National Institutes of Health, appears in the Sept. 2 issue of the *New England Journal of Medicine*.

The AASK also found that among people with protein in their urine, keeping blood pressure at the lower level reduced the likelihood of kidney disease progression, kidney failure or death by 27 percent compared to the standard blood pressure level, a statistically significant difference.

"For some patients, more intensive control of blood pressure may slow progression of chronic kidney disease," said Griffin P. Rodgers, M.D., director of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) at the NIH. "Rigorous, long-term studies like the AASK remain critically important for improving treatment of CKD and other diseases that develop over time, as it can take years for benefits of treatment to emerge."

AASK adds new information about which CKD patients benefit from lowering of blood pressure. This information may help doctors practice evidence-based, personalized medicine, the tailoring of each treatment regimen to each patient's unique characteristics. AASK followed participants for approximately 12 years to measure the long-term effects of blood pressure control in African-Americans with kidney disease attributed to high blood pressure.

The study was conducted in two phases. First, in a clinical trial from 1995 to 1998, participants were randomly assigned to a standard blood pressure goal of roughly 140/90 mmHg (usual) or a lower goal of less than 130/80 mmHg. After the clinical trial was completed, most of the remaining participants were enrolled in a follow-up study in which everyone had a blood pressure goal of less than 130/80 mm/Hg.

"The AASK study is the largest and longest study of kidney disease in African-Americans. It is a landmark study that is paying off - guiding patient care and improving health outcomes," said Lawrence Appel, M.D. of Johns Hopkins University, Baltimore, who chaired the study. "This study also highlights the importance of conducting long-term clinical studies. Without the follow-up study, the benefits of the lower goal would have been missed."

In the United States, high blood pressure causes about one third of new cases of kidney failure, also known as end-stage renal disease (ESRD). The cost to the government and private payers for ESRD now exceeds $35 billion annually.

"For nearly two decades, the AASK research has provided valuable information about the most desirable, long-term chronic kidney disease treatment options for African-Americans, who bear a disproportionate burden of this debilitating disease," said Lawrence Agodoa, M.D., director of the Office of Minority Health Research Coordination at the

NIDDK. "People who participate in studies like AASK provide important information on how to protect the kidneys and preserve overall health."

Study participants were initially recruited beginning in 1995 for the AASK Clinical Trial www.nih.gov/news/pr/nov2002/niddk-25.htm. Patients with diabetes and some other serious health problems were excluded. After the conclusion of that study, AASK participants who had not yet developed ESRD were invited to participate in the AASK follow-up study, which started in 2002.

In the follow-up study, recommended blood pressure therapy started with an angiotensin converting enzyme (ACE) inhibitor. This medication works by blocking the action of the protein angiotensin, which raises blood pressure. If blood pressure was not controlled, additional drugs were added. On average, patients needed about 3.5 medications for blood pressure each day. Millions of Americans take the drugs used in this study or drugs like them to treat health problems like high blood pressure or heart disease.

Provided by National Institutes of Health

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