Charleston VA researchers contribute to landmark NIH blood pressure management study

Lower blood pressure target greatly reduces cardiovascular complications and deaths in older adults

Researchers at the Ralph H. Johnson VA Medical Center have contributed to a breakthrough study that could have a significant impact in the treatment of high blood pressure among non-diabetic adults age 50 and older. Initial results of this landmark clinical trial, sponsored by the National Institutes of Health called the Systolic Blood Pressure Intervention Trial (SPRINT), indicate that more intensive management of high blood pressure, below the commonly recommended blood pressure target, significantly reduces rates of cardiovascular disease and lowers risk of death among patients in this age group. The intervention in this trial, which carefully adjusts the amount or type of blood pressure medication to achieve a target systolic pressure of less than 120 millimeters of mercury (mm Hg), reduced rates of cardiovascular events, such as heart attack and heart failure, as well as stroke, by almost a third and the risk of death by almost a quarter, as compared to the target systolic pressure of less than 140 mm Hg.

“This is very exciting news that could potentially save lives in the future,” said Roberto Pisoni, M.D., principle investigator for the study at the Charleston VAMC. “This study shows that a more intensified blood pressure control can be highly beneficial for older hypertensive patients. In our trial, we have seen about a 25 percent decrease in mortality as compared to the group on the conventional blood pressure control. The larger trial was actually stopped early based on an interim evaluation of the study, which produced such dramatic results. We continue to see the local participants in the trial here in Charleston and await the published results of the SPRINT trial. The final study will most certainly influence how clinicians treat high blood pressure in patients similar to those we have been following in this trial.”

In addition to Pisoni, researchers Jan Basile, M.D., former chief of primary care at the Charleston VAMC, and Joseph John, M.D., Charleston VAMC researcher, have both been key players in the study since it began a few years ago. Basile is quick to recognize the importance of the study but also encourages patients who could benefit from these preliminary results to take caution when considering changes to their own health care.

“Before anyone with hypertension changes their goal for blood pressure reduction or their therapy to achieve that goal, they should speak with their individual primary care clinician as these results still need to be formally published and evaluated by the scientific community,” Basile said. “Until then, no changes to the current guidelines will be made. We are cautious, but also thrilled with the results we’ve seen so far.”
High blood pressure, or hypertension, is a leading risk factor for heart disease, stroke, kidney failure, and other health problems. An estimated 1 in 3 people in the United States has high blood pressure.

The SPRINT study evaluates the benefits of maintaining a new target for systolic blood pressure, the top number in a blood pressure reading, among a group of patients 50 years and older at increased risk for heart disease or who have kidney disease. A systolic pressure of less than 120 mm Hg, maintained by this more intensive blood pressure intervention, could ultimately help save lives among adults age 50 and older who have a combination of high blood pressure and at least one additional risk factor for heart disease, the investigators say.

The SPRINT study, which began in the fall of 2009, includes more than 9,300 participants age 50 and older, recruited from about 100 medical centers and clinical practices throughout the United States and Puerto Rico. The Ralph H. Johnson VA Medical Center had 60 patients in the trial and researchers followed each participant for about four years. It is the largest study of its kind to date to examine how maintaining systolic blood pressure at a lower than currently recommended level will impact cardiovascular and kidney diseases. NIH stopped the blood pressure intervention earlier than originally planned in order to quickly disseminate the significant preliminary results.

The study population was diverse and included women, racial/ethnic minorities, and the elderly. The investigators point out that the SPRINT study did not include patients with diabetes, prior stroke, or polycystic kidney disease, as other research included those populations.

When SPRINT was designed, the well-established clinical guidelines recommended a systolic blood pressure of less than 140 mm Hg for healthy adults and 130 mm Hg for adults with kidney disease or diabetes. Investigators designed SPRINT to determine the potential benefits of achieving systolic blood pressure of less than 120 mm Hg for hypertensive adults 50 years and older who are at risk for developing heart disease or kidney disease.

Between 2010 and 2013, the SPRINT investigators randomly divided the study participants into two groups that differed according to targeted levels of blood pressure control. The standard group received blood pressure medications to achieve a target of less than 140 mm Hg. They received an average of two different blood pressure medications. The intensive treatment group received medications to achieve a target of less than 120 mm Hg and received an average of three medications.

The study is also examining kidney disease, cognitive function, and dementia among the patients; however, those results are still under analysis and are not yet available as additional information will be collected over the next year. The primary results of the trial will be published within the next few months.

“Here in Charleston, we are continuing to follow our participants to ensure that they complete the final battery of tests relating to this type of high blood pressure treatment and how it relates to cognitive function,” said Basile. “We want our patients to know that we will continue to answer any questions they may have regarding this study and we will discuss their future treatment with their primary care clinicians to determine how to best continue their care.”

In addition to primary sponsorship by the NHLBI, SPRINT is co-sponsored by the NIH’s National Institute of Diabetes and Digestive and Kidney Diseases, the National Institute of Neurological Disorders and Stroke, and the National Institute on Aging.

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The National Heart, Lung, and Blood Institute (NHLBI) plans, conducts, and supports research related to the causes, prevention, diagnosis, and treatment of heart, blood vessel, lung, and blood diseases; and sleep disorders. The Institute also administers national health education campaigns on women and heart disease, healthy weight for children, and other topics. NHLBI press releases and other materials are available online at www.nhlbi.nih.gov.

The National Institutes of Health (NIH) — The Nation's Medical Research Agency — includes 27 Institutes and Centers and is a component of the U.S. Department of Health and Human Services. It is the primary federal agency for conducting and supporting basic, clinical and translational medical research, and it investigates the causes, treatments, and cures for both common and rare diseases. For more information about NIH and its programs, visit www.nih.gov.

ABOUT THE RALPH H. JOHNSON VA MEDICAL CENTER:

Located in historic downtown Charleston, SC, the Ralph H. Johnson VA Medical Center is a tertiary care teaching hospital providing the highest level quality care from cardiology to neurology to primary and mental health care for more than 63,000 Veterans along the South Carolina and Georgia coast. The Ralph H. Johnson VA is rated a 5-Star medical center, the highest possible rating according to VA’s Strategic Analytics for Improvement and Learning Value (SAIL) model, and is the sixth fastest growing VA in the U.S. for percentage patient growth. This rating, which ranks the Charleston VA in the top 10 percent of VA medical centers nationwide for quality of care and efficiency, was first achieved by the Charleston VA in October 2014. The Charleston VA is also ranked in the top 10th percentile according to the Healthcare Effectiveness Data and Information Set (HEDIS) and ORYX. HEDIS and ORYX are independent reviews that measure performance of 90 percent of America’s health plans and facilities in both the public and private sector on dimensions of care and service. The Ralph H. Johnson VA Medical Center is a center of excellence for robotic surgery and orthopedics, and is a recognized leader in Tele-Mental Health providing care for Veterans throughout the Southeast. The 149 bed hospital includes six community based outpatient clinics, a 20 bed nursing home, women’s health, and the full range of inpatient and outpatient care including Medical and Surgical Intensive Care. The VAMC provides more than 700,000 outpatient visits and approximately 4,300 inpatient stays annually. The VAMC has an annual budget of $359 million, research funding of more than $20 million, and more than 100 principle investigators participating in approximately 300 research studies. For more information visit www.charleston.va.gov.