

SOUTHWESTERN NEWS

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African-Americans more prone to higher heart weight than whites, study shows

DALLAS – June 7, 2005 – Adult African-Americans have higher heart weight – a condition that can lead to serious heart disease – at two to three times the rates of whites, researchers from UT Southwestern Medical Center have shown.

The researchers discovered that within the general population, African-American patients have a higher rate of increased heart weight, or left-ventricular hypertrophy, than whites regardless of their differences in body fat and overall body composition. The study, available online, was to be published in an upcoming issue of *Hypertension: Journal of the American Heart Association*.

Elevated blood pressure seemed to be the best indicator of why African-Americans in the study had a higher rate of left-ventricular hypertrophy or LVH, the UT Southwestern research team found.

“LVH is associated with every adverse cardiovascular outcome – heart attacks, strokes and even heart failure,” said Dr. Mark Drazner, associate professor of internal medicine and the study’s lead author. “This study emphasizes the importance of early screening and treatment of blood pressure in African-American patients.”

The *Hypertension* findings are part of ongoing research related to the Dallas Heart Study, a groundbreaking investigation of cardiovascular disease begun in 1999 involving thousands of Dallas County residents. Heart failure is the No. 1 cause of mortality in the United States and affects 5 million Americans, with more than 400,000 new cases identified each year. It’s also the top cause of hospitalization for adults and accounts for more than \$30 billion a year in health-care costs.

The latest study looked at a large group of people in Dallas County in which 1,335 black and 858 white participants between the ages of 30 and 67 were assessed using cardiac magnetic resonance images. Cardiac MRI is one of the most accurate methods of measuring heart mass.

In previous studies comparing heart weight in African-Americans and whites, there was no adequate adjustment for body composition such as lean muscle mass and fat. Prior studies also did not account for the possibility of disparities in fat mass between ethnic populations.

“It has been suggested that LVH is a more common condition in African-Americans than in whites, but this is the first time it’s been studied in a population as large as Dallas County,” Dr.

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Drazner said. "The findings in this study also bring up the question of whether or not we should screen African-Americans for LVH."

Dr. Drazner and his colleagues found that blood pressure was a key indicator of higher heart weight in African-Americans than body fat and general body composition. Researchers measured the systolic blood pressure of each patient and found that the rate of LVH decreased in African-Americans who had what is a normal systolic pressure of 120 or less. Even at a "high normal" blood pressure of 140, African-Americans did not have a higher prevalence of some measures of LVH as compared to whites. Systolic pressure represents the pressure in the arterial system caused by the heart as blood is being pumped out.

High blood pressure causes the heart to pump harder to push blood throughout the body. As a result, the left ventricle – which pumps oxygen-carrying blood from the lungs to the rest of the body – becomes thicker. Congestive heart failure occurs when the heart's left ventricle fails to pump properly.

"These exciting results suggest the extent to which even the early stages of heart disease could be prevented in the African-American community by prevention and treatment of hypertension," said Dr. Ronald Victor, senior author of the study and chief of hypertension at UT Southwestern.

The Dallas Heart Study, a population-based probability sample for the research of ethnic differences in cardiovascular health, is funded by the Donald W. Reynolds Foundation. Patients within the study were given regular blood pressure screenings, medical and socioeconomic histories, cardiac MRIs to measure left ventricular mass, and measurements of body mass composition.

Other UT Southwestern researchers involved in the study were Dr. Ronald Peshock, professor of radiology; Dr. DuWayne Willett, associate professor of internal medicine; and Dr. Farhana Kazi, assistant professor of internal medicine. Other authors were from Loyola University and the University of Pennsylvania.

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