

9 in 10 blacks with high blood pressure have early heart disease (Update)

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A Wayne State University School of Medicine study has found that an overwhelming majority of African-American patients with hypertension also suffered hidden heart disease caused by high blood pressure even though they displayed no symptoms.

The study – "Subclinical Hypertensive Heart Disease in African-American Patients with Elevated Blood Pressure in an Inner-City Emergency Department" – was conducted by Phillip Levy, M.D., M.P.H., associate professor of Emergency Medicine, and was recently published online in *Annals of Emergency Medicine*.

Nine of every 10 patients tested suffered hidden heart damage caused by high blood pressure, the study found. While slightly more than 93 percent of 161 patients in the study had a history of hypertension, 90.7 percent tested positive for hidden hypertensive heart disease. None of them knew their high blood pressure was affecting their hearts and did not show any symptomatic signs of heart disease.

"These results present a tremendous opportunity to screen for heart disease before it becomes symptomatic, especially in a population with high rates of hypertension," Levy said. "If we can detect incipient heart disease early, we have a better shot at treating it before it turns into a full-blown health emergency. Our study is also a strong reminder that emergency patients with chronic disease – in this case, hypertension – are generally a high-risk group."

The patients were enrolled in the study after appearing at the emergency room of Detroit Receiving Hospital. They did not come to the hospital for heart disease symptoms. Once enrolled in the study, they underwent echocardiograms, which revealed the hypertensive heart disease. Of the total 161 patients, 93.8 percent were inner-city African-Americans; 51.6 percent were male. The mean age of the patients enrolled was 49.8 years.

Most of the patients (93.8 percent) had a history of high blood pressure and were aware that they had the condition, but only 68.3 percent were receiving treatment.

Of those found to have hidden heart disease, the majority were diagnosed with diastolic dysfunction, defined as the heart's inability to adequately pump blood. Levy said the echocardiograms found the presence of subclinical hypertensive heart disease "ubiquitous."

He noted that hypertension is commonplace in the United States, and affects more than 76 million adults. The prevalence of the condition is higher in African-Americans, who are at "tremendous risk" for pressure-related consequences of hypertension, especially the premature onset of damage to and impairment of heart function.

According to the U.S. Centers for Disease Control and Prevention, 228.3 in every 100,000 Michigan residents 35 and older died of hypertension-related causes in 2009. In African-Americans, the rate was 381.9 deaths for every 100,000, and in whites it was 211. All Michigan rates were higher than national statistics. In rates of hypertension hospitalizations of Michigan residents 65 and older who are Medicare beneficiaries, African-Americans had higher rates (14 hospitalizations per 1,000 Medicare beneficiaries) than whites (3.6 per 1,000). Again, both rates were higher than national numbers.

Since subclinical heart disease is unlikely to be detected in such

hypertensive patients until the damage manifests in visibly recognized symptoms, the early identification of the condition "has emerged as an important aspect of secondary cardiovascular disease prevention," Levy said.

Emergency room physicians may underestimate the prevalence of hidden hypertensive heart disease in inner-city African-Americans, who are considered an especially high-risk group and who rely on emergency rooms for treatment because of lack of access to primary care physicians.

"Emergency physicians are uniquely positioned to lessen the overall impact of chronic high blood pressure in at-risk communities," Levy said. "Blood pressure readings are taken for every patient in the ER. By not just taking in new information but also acting on it, we can substantively contribute to much-needed secondary disease prevention efforts."

In 2010, the CDC reported the financial burden of hypertension in the U.S. was \$76.6 billion in health care, medication and missed days of work.

Recognizing the likelihood of previously unrecognized subclinical hypertensive heart disease prevalence in African-Americans holds therapeutic promise that could reduce the adverse outcomes, Levy said. Blacks progress from hidden to symptomatic stages of left-ventricular dysfunction more rapidly than other population groups, and the mean age of blacks admitted to hospitals with heart failure is much lower than that of whites (63.6 years versus 75.2 years).

"While we must recognize the risk that exists for these patients, we should not expect emergency departments to perform the further studies needed to identify subclinical end-organ damage," Levy said.

"Emergency departments should focus on identification of poorly controlled hypertension – whether or not it was the primary reason for the emergency visit – and hospital systems, especially those where high disease prevalence exists, should have some coordinated mechanism where patients can be referred for follow-up. Moreover, at that follow-up, a mechanism should exist to perform effective intervention, including risk stratification, even if patients lack insurance."

Provided by Wayne State University

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