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Blacks with AFib at greater risk for adverse outcomes

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Blacks with atrial fibrillation (AFib) have nearly double the risk than their white counterparts of stroke, heart failure, coronary heart disease (CHD) and mortality from all causes, according to a study published today in *JAMA Cardiology*.

The study, funded by a grant from the Doris Duke Foundation and led by Jared Magnani, M.D., associate professor of medicine, Division of Cardiology, University of Pittsburgh School of Medicine, and cardiologist at the UPMC Heart and Vascular Institute, analyzed data from the Atherosclerosis Risk in Communities (ARIC) Study to examine racial differences in adverse outcomes associated with AFib.

AFib is the most common heart rhythm problem in the U.S. It affects approximately 1 percent of the adult population and more than 5 percent of those 65 years old and older. It also is known to be strongly associated with increased risks of stroke, heart failure and mortality.

"We knew blacks were likely to have an increased risk of stroke, but the findings for heart failure, CHD and mortality are novel and important," Dr. Magnani said. "This should put the focus on improving prevention efforts for adverse outcomes in blacks with atrial fibrillation, and drive further studies into the reasons behind why this is happening."

The ARIC Study, sponsored by the National Heart, Lung, and Blood Institute, recruited 15,792 men and women, 45 to 64 years old, from four communities in the United States—Forsyth County, North Carolina;

Jackson, Mississippi; the northwest suburbs of Minneapolis, Minnesota; and Washington County, Maryland. The community-based cohort was designed to investigate causes of atherosclerosis and cardiovascular disease, and included baseline examinations in 1986 and more than 20 years follow up.

"ARIC provided an opportunity to examine racial differences in outcomes related to atrial fibrillation. In general, most large studies of individuals with atrial fibrillation are predominantly of white participants," Dr. Magnani said. "We know that atrial fibrillation is associated with adverse outcomes, but these data provided important insights into differences by race."

After exclusions, 15,080 participants (8,290 women and 3,831 blacks) were included in the new analysis. Noteworthy racial differences at baseline examination included a body mass index of 27 percent for whites and 29.6 percent for blacks. Black participants also had a higher prevalence of hypertension and diabetes.

During analysis of the 20-year follow-up, 2,348 cases of AFib were identified—1,914 in whites with an incidence rate of 8.1 per 1,000 person-years, and 434 in blacks, with an incidence rate of 5.8 per 1,000 person-years. Researchers found that adverse outcomes in black participants were almost double that for whites.

The incidence rate of strokes in black participants was 21.4 compared to 10.2 in their white counterparts. For heart failure and CHD, the rate difference was almost two-fold higher in blacks than whites. Blacks also had a rate difference of 106 for mortality compared to 55.9 in whites.

Researchers also believe the results are enough to warrant an addition to the current guidelines for the management of patients with AFib developed by the American College of Cardiology, American Heart

Association Task Force on Practice Guidelines and the Heart Rhythm Society to include the significant difference in adverse outcomes between blacks and whites with AFib.

Limitations of the study noted by researchers included that ARIC participants were from only four geographic regions and that the study is biracial. The researchers are careful to note that generalizability to other geographic regions or to other races and ethnicities may be limited.

"There needs to be further investigation," said Dr. Magnani, who completed his research while at Boston University School of Medicine. "It's going to be important to dissect the mechanisms behind why blacks with atrial fibrillation are highly more likely to have adverse outcomes than whites."

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