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Whites more prone to certain heart condition than other ethnic groups

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An individual's race or ethnic background could be a determining factor when it comes to risk of atrial fibrillation, the most frequently diagnosed type of irregular heart rhythm, according to researchers at UC San Francisco.

In a study to be published online October 8 and in the November 12 issue of *Circulation,* researchers discovered that self-described non-Hispanic whites are more likely to develop atrial fibrillation than people from other race or ethnic groups.

"We found that consistently, every other race had a statistically significant lower risk of atrial fibrillation compared to whites," said senior author Gregory Marcus, MD, MAS, FHRS, an associate professor of medicine who specializes in electrophysiology in the UCSF Division of Cardiology. "So this suggests that white race is itself a risk factor for atrial fibrillation."

The researchers studied the records of 14 million California patients who visited the emergency room, had outpatient services, or were hospitalized between 2005 and 2009. The patient sample included Caucasians, African Americans, Hispanics and Asian Americans. Previous research that established African Americans at lower risk for atrial fibrillation than whites, despite having more risk factors for atrial fibrillation, studied only Caucasians and African Americans. This raised the question as to whether African Americans were protected or whites were at increased risk, forming the foundation for the current study.

"We were surprised to find that Asian Americans and Hispanics have similar relative decreases in atrial fibrillation risk as African Americans, suggesting there is some characteristic unique to whites that increases the likelihood of this abnormal heart rhythm," said first author Thomas A. Dewland, MD, a cardiac electrophysiology fellow in the UCSF Division of Cardiology.

Atrial fibrillation is the most common cardiac arrhythmia. People over 40 years of age have a 26 percent lifetime risk of developing this abnormality, according to the Framingham Heart Study.

"Presumably there may be a gene, or a set of genes, in European ancestry or some important behavior or environmental exposure in whites that increases the risk for atrial fibrillation," Marcus said. "Based on several analyses performed in the study, the risk is not related to existing cardiac conditions like high blood pressure or existing heart disease."

In comparison to Caucasians, African Americans had 16 percent lower risk, Hispanics had 22 percent lower risk, and Asian Americans also had 22 percent lower risk for atrial fibrillation.

"Despite the frequency with which we see this disorder in our clinical practice, our understanding of why certain patients are affected remains incomplete," Dewland said. "Continued research into how atrial fibrillation develops will allow us to better predict, treat, and ultimately prevent this rhythm abnormality."

Provided by University of California, San Francisco

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