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Studies find disparities in stroke incidence and AF treatment

MARCH 1, 2010 | Pauline Anderson

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San Antonio, TX - New research from the **Reasons for Geographic and Racial Differences in Stroke** (REGARDS) study has uncovered racial and geographic disparities in stroke incidence and racial differences in receiving proper diagnoses and treatment for atrial fibrillation (AF).

One study found that blacks and those living in the so-called "stroke belt," which stretches across the Southeastern US, are most likely to suffer a stroke [1].

A second report shows that blacks are more likely than whites to be unaware that they have AF and are less likely to be on warfarin if they have been diagnosed with the condition [2].

Both studies used data from the REGARDS study, which enrolled 30 239 participants across the US age 45 or older between January 2003 and October 2007.

Findings were presented here during the **American Stroke Association International Stroke Conference 2010**, and the second report was simultaneously published online February 26, 2010 in *Stroke*.

First national data

In the stroke-incidence analysis, researchers provided the first national data describing racial and regional disparities. They reviewed data on 26 610 REGARDS participants who had not had a stroke at baseline and documented 352 strokes during a median follow-up of 3.9 years.

The study found that patterns of stroke incidence are similar to those of stroke mortality drawn from US death-certificate data. "We're actually contrasting the mortality data with what we now have from incidence data," the study's lead author, **Dr Virginia J Howard** (University of Alabama at Birmingham), said in an interview. "Basically, we're seeing a very, very similar pattern, with higher stroke incidence in blacks compared with whites."

The racial difference was most apparent in younger people. In the group aged 45 to 54, blacks had almost a 2.5 times higher stroke incidence than whites, at 192 per 100 000 vs 74 per 100 000.

"We have seen significant declines in stroke mortality overall, which has been one of the great public-health achievements of the 20th century, but while we have reduced stroke deaths, we still have these disparities," said Howard.

Only some of the higher incidence of stroke among blacks is due to the higher rate of uncontrolled hypertension or to diabetes, she said. "There are other factors that have to be considered, and it could be things like diet, lifestyle, physical activity, or maybe even the infection rate."

Geographical disparities

The study also found geographical disparities. The stroke rate was more than 12% higher among those living in the "stroke belt"—North Carolina, South Carolina, Georgia, Alabama, Arkansas, Louisiana, Tennessee, and Mississippi. The rate was 410 per 100 000 outside this belt compared with 457 per 100 000 inside the belt and even higher—485 per 100 000—in the "buckle," the area that includes the coastal plain of North Carolina, South Carolina, and Georgia.

The large number of blacks living in this region can explain only some of this difference, said Howard. "That's a part of it, but even after you control for that, it's still higher, so blacks who live in the stroke belt have two strikes against them."

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Targeted messages are needed that emphasize that stroke is a preventable disease, said Howard.

Culturally sensitive message

Offering his comments on this research, **Dr Michael Sloan** (University of South Florida, Tampa) said that getting minorities to recognize and act on stroke symptoms might require a new public-awareness approach.

"A lot of it is crafting a message and presenting it in a culturally sensitive and appropriate manner," said Sloan. "The marketing and advertising people have this down, so obviously we can learn something from that group in terms of crafting and conveying the message."

But everyone in the healthcare system plays a role in helping to change behaviors, said Sloan. "We can do a better job collectively—governments, medical organizations, physicians, other healthcare providers, and of course the individual patients, who have to be willing to take the advice and act on it."

There is still more research to be done to answer questions related to racial and geographical disparities in stroke incidence, but this is the "first pass," said Sloan. The REGARDS study group "will be looking at a lot of other things, so we expect more from this group" that hopefully will address some of these issues.

Warfarin makes "a huge difference"

In the separate analysis of REGARDS data, lead author **Dr James F Meschia** (Mayo Clinic, Jacksonville, FL) and colleagues found that among 432 study participants (88 blacks, 344 whites) who had AF confirmed by ECG, blacks were both less likely to know they had AF and less likely to be treated with warfarin.

Among those with AF, 88% had at least one additional CHADS₂ risk factor, and 60% knew they had AF, the authors report.

The odds of black subjects being aware of their AF were one-third that of whites. Of those who were aware they had AF, the odds of them receiving treatment were only one-fourth as great as whites.

REGARDS: Atrial fibrillation awareness and treatment in blacks vs whites

End point	Odds ratio (95% CI)
AF awareness	0.32 (0.20-0.52)
Warfarin treatment	0.28 (0.13-0.60)

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"These disparities are a problem," said Meschia in a statement from the **American Heart Association/American Stroke Association** [3]. "For patients who are able to take warfarin, it makes a huge difference. Stroke trials have shown that warfarin reduces the risk of stroke by 60%."

Meschia noted that not all patients should receive warfarin because of the risk of bleeding.


The healthcare system needs to better screen for and inform people about whether they have AF, and more study is needed to shed light on the causes of the disparity in warfarin treatment, said Meschia.

For his part, Sloan said this second report generates more questions than it answers. "If blacks are aware they have symptoms of AF, there are any number of reasons why they don't get treated," said Sloan. "They may not recognize the significance of the symptoms, or they may not have easy access to medical care. They also may be afraid to go to the doctor. They may not be able to afford it; they may not like doctors; or they may not trust doctors."

Since the research continued only until 2007, "I would imagine that it's probably even truer today, given the present economic conditions," said Sloan.

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Sources

1. Howard VJ, Kleindorfer D, McClure LA, et al. Stroke incidence as the major contributor to racial and regional disparities in stroke mortality: The Reasons for Geographic and Racial Differences in Stroke (REGARDS) study. American Stroke Association International Stroke Conference 2010; February 26, 2010; San Antonio, TX. Abstract 158.
2. Meschia JF, Merrill P, Soliman EZ, et al. Racial disparities in awareness and treatment of atrial fibrillation: The Reasons for Geographic and Racial Differences in Stroke (REGARDS) study. *Stroke* 2010; DOI: 10.1161/STROKEAHA.109.573907. Available at: <http://stroke.ahajournals.org>. American Stroke Association International Stroke Conference 2010; February 26, 2010; San Antonio, TX. Abstract 160.
3. American Stroke Association. Blacks more likely to have undiagnosed key stroke risk factor, have higher stroke incidence [press release]. February 26, 2010. Available [here](#).

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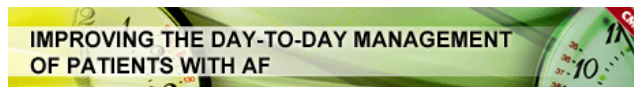
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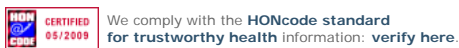
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