

Aspirin Use a Key to Racial Divide in Stroke Deaths

BY SHARON WORCESTER
Southeast Bureau

NEW ORLEANS — Differential prophylactic aspirin use may contribute to racial disparities in stroke mortality, but does not appear to play a role in geographic disparities, according to findings from a cohort of patients in the ongoing Reasons for Geographic and Racial Differences in Stroke (REGARDS) study.

Nearly 17,000 adults, aged 45 years and older, participated in this segment of the REGARDS study, which included a computer-assisted telephone survey that inquired about patterns of prophylactic aspirin use, a follow-up home visit for a brief medical evaluation including blood pressure measurement and blood sampling within 2 weeks of the survey. Follow-up telephone interviews were conducted every 6 months thereafter regarding events and changes in cognitive function, Virginia Howard, M.S.P.H., explained at International Stroke Conference 2008, sponsored by the American Stroke Association.

Patients who self-reported a history of heart disease, stroke, or aspirin use for pain relief, and patients in whom aspirin use could not be determined, were excluded from the analysis.

Overall, about 31% of participants used aspirin prophylactically, with slightly high-

er rates in the “stroke belt” of the Southeastern United States, compared with the rest of the country. Oversampling was done in the stroke belt because of the higher stroke rates in that region, explained Ms. Howard of the department of epidemiology at the University of Alabama at Birmingham.

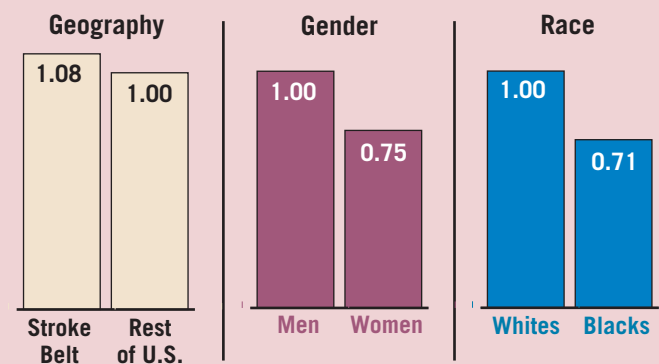
Men were significantly more likely than women to use aspirin prophylactically, and white participants were significantly more likely than blacks to use aspirin prophylactically (see box). There was also a trend toward increasing use with advancing age, she said.

Aspirin use also was higher among those with higher income levels and among those with the highest educational levels.

There was little difference in usage patterns at other educational levels, however. Additionally, aspirin use was higher among smokers, particularly past smokers, and in those with hypertension, diabetes, and/or dyslipidemia.

The investigators also analyzed aspirin dosages, comparing use of 75 mg with use of 325 mg. No geographic or age differences were noted in regard to dose, but the use of the lower dose was more common in white participants, women, and those with higher socioeconomic status. No differences in dose were noted according to risk factors.

Odds Ratios for Variables of Prophylactic Use of Aspirin



Note: Based on data for 16,908 adults aged 45 years and older in the Reasons for Geographic and Racial Differences in Stroke study.
Source: Dr. Howard

Overall, “we found that prophylactic aspirin use was remarkably common in this cohort,” Ms. Howard said.

“Related to our primary goals, we did find that prophylactic aspirin use was higher among whites than African Americans, so this raises the possibility that this could be contributing to racial disparities in stroke mortality.”

However, counter to the investigators’ hypothesis, the disparity in prophylactic aspirin use does not appear to contribute to

the excess mortality in the stroke belt, as use was more common in that region compared with the rest of the nation, she said.

Ms. Howard noted that she had no financial conflicts of interest. However, the lead investigator for this portion of the REGARDS study, Dr. Stephen P. Glasser who is also with the university, was a clinical site principal investigator for a previous trial sponsored by Bayer Health-care.

Insulin Resistance Tied to Stroke Risk in Nondiabetic Patients

BY JEFF EVANS
Senior Writer

NEW ORLEANS — Insulin resistance independently predicted the risk of ischemic stroke and vascular disease in nondiabetic participants in the Northern Manhattan Study, a community-based, prospective cohort of 3,298 people.

The results of the study, which had a mean follow-up of 7.6 years in 1,680 nondiabetic participants with a known homeostasis model assessment for insulin resistance (HOMA-IR) index, suggest a possible role for insulin re-

sistance in the etiology of stroke among nondiabetic individuals, especially men, Dr. Tatjana Rundek reported at the International Stroke Conference 2008.

The results also underscore the need for better characterization of individuals when assessing their risk for stroke and the potential role for preventive therapies targeted at insulin resistance, said Dr. Rundek of the department of neurology at the University of Miami.

Studies have indicated that insulin resistance likely contributes to the atherosclerotic process by creating a proinflammatory state

and promoting endothelial dysfunction, she said.

“There have been at least 10-15 case-control studies showing the association between insulin resistance in nondiabetic subjects and cardiovascular risk. One of the more recent prospective studies, the Framingham Offspring Study, showed that in individuals without diabetes, the risk of cardiovascular disease rose in relation to quartiles of the HOMA-IR index.

“However, data on the [relationship between] insulin resistance and risk of stroke [are] pretty controversial and quite limited,” Dr. Rundek said at the conference, which was sponsored by the American Stroke Association.

In the current study, Dr. Rundek and her coinvestigators used the HOMA-IR index to estimate insulin resistance because of the practicality and simplicity of using it in a large, epidemiological study rather than measuring insulin resistance directly via a hyperinsulinemic euglycemic clamp or a fast-sampling intravenous glucose tolerance test.

Of 3,297 individuals in the study who had at least 1 year of follow-up, 1,680 (51%) did not have a history of diabetes or a previous ischemic stroke and had

their HOMA-IR index calculated. These 1,680 participants with a mean age of 68 years included 63% women and comprised mostly Hispanic patients (58%), followed by African American (21%) and white patients (21%). Overall, 54% had not graduated from high school and 16% currently smoked.

At baseline, participants with insulin resistance—defined as a HOMA-IR index greater than 3, the 75th percentile for the distribution of the index—were significantly more likely than non-insulin resistant individuals to be Hispanic (68% vs. 55%, respectively), but less likely to be white (15% vs. 23%) or have more than a high school education (39% vs. 48%). Compared with participants without insulin resistance, significantly fewer insulin-resistant individuals drank alcohol in moderate amounts (67% vs. 58%) or were physically active (10% vs. 5%). Insulin-resistant participants also had significantly worse measurements for waist circumference, body mass index, high-density lipoprotein, and fasting blood glucose.

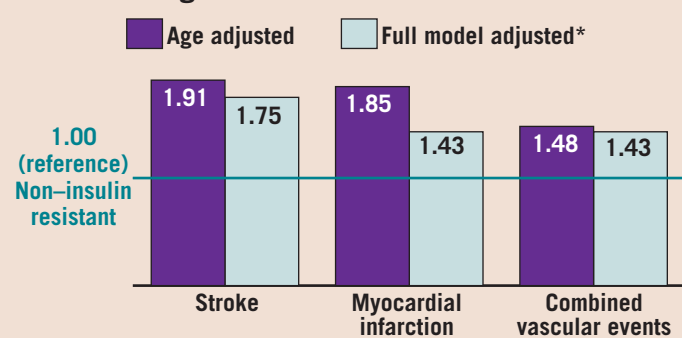
After a mean follow-up period of 7.6 years, 44 patients suffered an ischemic stroke, for an incidence of 3.4/1,000 person-years.

Another 61 patients had a myocardial infarction, yielding a rate of 4.7/1,000 person-years. A total of 216 patients experienced the combined vascular events outcome of stroke, MI, or vascular death (mostly deaths from stroke and MI), giving an incidence of 17/1,000 person-years.

Insulin resistance was a significant, independent predictor of stroke and a combined outcome of stroke, MI, or vascular death after adjustment for age alone or the full model of socioeconomic and clinical variables (age, sex, race/ethnicity, high school education, waist circumference, systolic and diastolic blood pressure, moderate alcohol consumption, low-density and high-density lipoprotein, and history of smoking and heart disease). Insulin resistance increased the risk of these outcomes by 43%-75%. In analyses stratified by gender or ethnicity, insulin resistance was associated with a significantly higher risk of stroke only among men, but the study had limited power to make comparisons among such subgroups, she said.

“The results support a role for subclinical insulin resistance in the etiology of stroke among nondiabetics,” Dr. Rundek concluded.

Hazard Ratios for Risk of Vascular Events Higher With Insulin Resistance



*Adjusted for factors including age, sex, race/ethnicity, high school education, waist circumference, systolic and diastolic blood pressure.
Note: Based on a mean 7.6-year follow-up of 1,680 nondiabetic adults.
Source: Dr. Rundek