Racial Differences in Aortic Plaque Among Ischemic Stroke Patients

To the Editor:

We read with interest the article by Gupta et al concerning racial differences in aortic plaque among ischemic stroke patients.1 As the authors state, no previous studies have compared thoracic atherosclerotic plaque burden among racial groups. They report a lower prevalence of aortic plaque in black stroke patients compared with whites, despite higher rates of hypertension and diabetes mellitus in the former group. However, the reasons for transesophageal echocardiography (TEE) investigation in this retrospective study may require further clarification: did every stroke patient undergo TEE or only a select group in whom no other stroke cause could be identified? If there was some selection process, what percentages of the different racial group of stroke patients underwent TEE? The answers to these questions will determine the extrapolability of these data to the US population.

We have prospectively assessed 105 consecutive patients with recent cerebrovascular events and in contrast to Gupta et al found that white patients had a significantly higher incidence of aortic atherosclerosis using univariable analysis.2 However, this significance disappeared on age adjustment in the bivariate analysis, suggesting that the racial difference could be explained by age.

Gupta et al also conclude that racial differences cannot be explained by existing risk factors.1 It appears, however, that atrial fibrillation was not included in this list. The Stroke Prevention in Atrial Fibrillation (SPAF) III study reported that aortic plaque is prevalent among patients with atrial fibrillation.3 In the Northern Manhattan Stroke Study, fewer blacks (11%) had atrial fibrillation compared with whites (29%).4 Similar low rates of atrial fibrillation among stroke patients have been reported in South African black patients.5 It is conceivable that the lower rate of atrial fibrillation among black patients may explain racial differences in the associated aortic plaque in this group.

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Response

We appreciate the comments and questions by Drs Sen and Oppenheimer. We regret inadvertently not citing their work in our article. In our study, all patients with the diagnosis of acute ischemic stroke at The University of Alabama Hospital in Birmingham, Alabama, underwent TEE, including patients with atrial fibrillation. Atrial fibrillation patients were initially excluded from the study but were included during the peer-review process. We had 81 (5.2%) patients with atrial fibrillation, of which 20 (1.28%) were black and 61 (3.9%) were white. It was noted that whites had significantly higher atrial fibrillation when compared with blacks (risk=2.28, P=0.001). This incidence is much lower than that found in the Northern Manhattan study. Even after excluding patients with atrial fibrillation, the results of our study still showed a higher prevalence of aortic plaques in whites as compared with blacks. Very few patients belonged to other ethnic groups.

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