

Atrial Fibrillation and Ethnicity

To the Editor:

Benjamin et al¹ address the risk of atrial fibrillation (AF) in the Framingham Study with a longitudinal population design, which overcomes the common problem of selection bias. However, the study sample was predominantly white, and the one epidemiological question that remains unanswered is the relationship between race and the incidence of AF.

Although there are recognized ethnic differences in cardiovascular disease and stroke, the world literature on the clinical epidemiology of AF in nonwhite groups is scarce. We are only aware of small surveys on the prevalence of AF in nonwhites from Africa,² Japan,³ and Hong Kong,⁴ in addition to our work in a multiethnic population in Birmingham, England.⁵

For example, Maru² reported 136 Ethiopian cardiac outpatients with AF, in whom the mean age was 41 years, and the commonest causes were rheumatic heart disease (66%), hypertension (10%), cardiomyopathy (9%), and ischemic heart disease (7%). A Japanese report³ of secular trends in the prevalence and incidence of AF among a rural population found an association of AF with hypertension, but >80% did not have heart disease or thyroid disease. In a review of 291 predominantly Chinese patients, the mean age was 73 years, and the commonest etiological factors were hypertension (29%), vascular disease (25%), and rheumatic heart disease (18%).⁴

In our survey of acute medical admissions with AF, 87% were white, 4% were black/Afro-Caribbean, and 9% were Indo-Asian.⁵ The predominant etiological factor associated with AF in our Afro-Caribbean patients was hypertension, whereas in Indo-Asians, it was ischemic heart disease.⁵ Indo-Asian patients with AF in our study were also younger (mean age 62 years) than Afro-Caribbeans and whites (mean ages of 73 and 75 years, respectively). Our survey of 6 general practices with a combined population of 25 051 (65% Indo-Asians) only identified 12 Indo-Asian patients (mean age 67 years) with known AF, suggesting a prevalence of AF of 0.6% in Indo-Asians aged >50 years. The commonest associated medical conditions were ischemic heart disease, heart failure, hypertension, and valve disease. The lower prevalence of AF among Indo-Asian patients in general practice compared with our hospital survey may be a reflection of a higher relative proportion of Indo-Asians with AF who required hospital admission, perhaps due to concurrent ischemic heart disease (or complications) that could make such patients more unwell. Our previous general practice survey had suggested that only a third of patients with AF had ever presented to hospital, suggesting that hospital-centered surveys may misrepresent the true picture of the clinical epidemiology of AF. In addition, scant information is available on ethnic variations in the prescribing of, or compliance with, thromboprophylaxis for the prevention of stroke and thromboembolism.

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Response

We thank Drs Gibbs and Lip for their interest in our work. As acknowledged in the article, the generalizability of our finding of an association of atrial fibrillation and increased risk of death remains to be established in other racial and ethnic minorities.¹ Aside from the work cited by Drs Gibbs and Lip, there are few published studies of atrial fibrillation in nonwhite populations. The existing literature hints that there are racial and ethnic differences in the epidemiology of atrial fibrillation. However, ethnic and international comparisons of the prevalence of atrial fibrillation are hampered by differences in study design. For instance, a study of 984 Himalayan village residents in India found a prevalence of atrial fibrillation of only 0.1% (n=1).² However, the participants were healthy, received only a single ECG, and only 6% were >65 years of age. Racial differences in the prevalence of atrial fibrillation are also suggested by the Cardiovascular Health Study, a 4-community study of the elderly in the United States. Blacks constituted only 5% of the study sample, but the investigators noted that there was a trend for blacks to have a lower incidence of atrial fibrillation than whites (relative risk 0.47, 95% CI 0.22–1.01).³ However, it is unclear whether or not these racial differences would have persisted if the analysis had been restricted to atrial fibrillation detected on routinely ascertained study ECGs.

There is a similar paucity of data regarding ethnic differences in the prognosis and treatment of atrial fibrillation. The Atrial Fibrillation Investigators noted that only 5% of patients enrolled in randomized controlled trials of warfarin were nonwhite; the investigators did not comment on racial differences in stroke rate.⁴ In contrast, in a prospective study of ischemic stroke patients in northern Manhattan (35% black, 46% Hispanic, and 19% white), a history of atrial fibrillation was less prevalent in both blacks (11%) and Hispanics (11%) than among whites (29%; $P<0.01$ for black versus white and for Hispanic versus whites). However, the latter analysis was unadjusted.⁵ In summary, we concur with Drs Gibbs and Lip that there is a regrettable lack of knowledge about the epidemiology, prognosis, and treatment of atrial fibrillation in ethnic minorities and for much of the developing world.⁶ We hope these deficits will be rectified soon.

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