A COMPARISON OF CARDIOVASCULAR DISEASE RISK FACTOR BIOMARKERS IN AFRICAN AMERICANS AND YORUBA NIGERIANS

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INTRODUCTION

Various studies have documented that the classical risk factors for coronary artery disease, including type 2 diabetes, hypertension, cholesterol, and obesity, are increasing in the developing world.1–3 These changes in risk factors are also reflected in the increasing rates of cardiovascular disease in these same populations.1,4,5 Recently, newer, emerging risk factors for cardiovascular disease have been reported. Epidemiologic studies measuring these newer risk factors have been conducted primarily in middle-aged populations in developed societies. In contrast to the measurement of classical cardiovascular risk factors, few studies have examined these risk factors in elderly African Americans and none in the elderly populations of developing countries. These newer biomarkers can provide additional information on the risk for cardiovascular disease. In addition, more evidence shows that cardiovascular risk factors also increase the risk for cognitive decline, dementia and Alzheimer disease.6–8

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METHODS

Since 1992, we have been conducting a comparative, community-based epidemiologic study of prevalence, incidence, and risk factors for Alzheimer disease in populations of African origin: elderly African Americans in Indianapolis, Indiana, and Yoruba in Ibadan, Nigeria. This study provides a unique opportunity to compare these biomarkers in these two populations. In 2001, biomarker measurements were added to this study; these include lipid measurements; markers of endothelial dysfunction (plasminogen activator inhibitor type 1 [PAI-1] and E-selectin), inflammation (C-reactive protein), and lipid oxidation (8-isoprostane); and levels of homocysteine, folate, and vitamin B12. In this article, we compare biomarkers between the two populations.