DISPARITY IN FREQUENCY OF NORMAL CORONARY ARTERY IN BLACK AND WHITE PATIENTS UNDERGOING CARDIAC CATHETERIZATION

Background: Normal epicardial coronary arteries (NCA) based on angiography have been reported to occur more frequently in Blacks than in Whites, but these studies have suffered from the limitation of being retrospective, reporting on relatively small numbers of subjects, or lacking a systematic angiogram interpretation.

Methods and Results: Angiograms of 560 consecutive patients (226 Black and 334 White) enrolled in the Harlem-Bassett Study were reviewed. The presence of coronary artery disease risk factors was documented. A coronary artery was defined as normal if no segment contained a luminal diameter stenosis >24%. Overall, NCA were found in 39.1% of patients (Blacks 42.9% and Whites 36.5%) and were present most frequently in White women (53.7%). Black men were two times more likely than White men to have NCA (odds ratio [OR] 2.09, P<.002). More Blacks than Whites with NCA were hypertensive (OR 3.30, P<.001) and cigarette smokers (OR 5.18, P<.001), whereas more Whites had hypercholesterolemia (OR .29, P<.001).

Conclusion: Significant racial differences exist between the Black and White populations in regard to the presence of NCA. The traditional risk factors of age, diabetes, cigarette smoking, and hypercholesterolemia are present in both groups. However, a racial disparity exists in the frequency of some risk factors (hypertension, cigarette smoking, hypercholesterolemia) in patients with NCA. (Ethn Dis. 2006;16:370–374)

Key Words: Coronary Angiography, Coronary Artery Disease, Race, Risk Factors

INTRODUCTION

Several published studies have indicated racial differences in the anatomic location and severity of coronary artery disease (CAD) as well as in the occurrence of CAD risk factors between the Black and White populations. Data on racial differences in the frequency of normal epicardial coronary arteries (NCA) in patients undergoing coronary angiography for suspected coronary artery disease are scanty. NCA based on angiography have been reported to occur more frequently in Blacks than in Whites, but these studies have suffered from the limitations of being retrospective, reporting on relatively small number of subjects, lacking a clear definition for normal coronary arteries, and not including White patients for comparison. Also, differences in risk factors for CAD have not been well defined in patients with normal coronary angiogram. We analyzed the clinical data and angiographic findings in Black and White patients undergoing coronary angiography who were enrolled in the Harlem-Bassett Study, which was designed to determine the effect of lipoprotein(a) on race-related differences in the development of atherosclerosis. The objectives of our study were to evaluate for racial differences in the presence of angiographically normal coronary arteries in our patient population and to determine the distribution of CAD risk factors in patients with normal coronary angiograms.

METHOD

Overview

The Harlem-Bassett Study was a National Institute of Health-sponsored cross-sectional investigation designed to examine the race-related differences in the development of coronary atherosclerosis, with particular emphasis on the role of lipoprotein(a). Patients were <70 years of age and underwent diagnostic cardiac catheterization for suspected coronary artery disease between 1991 and 1994 in accordance with Harlem-Bassett study protocol. Recruit-