ACC.11
60th Annual Scientific Session & Expo

E586
JACC April 5, 2011
Volume 57, Issue 14

RACIAL DIFFERENCES IN SUDDEN CARDIAC DEATH AMONG HYPERTENSIVE PATIENTS DURING ANTIHYPERTENSIVE THERAPY: THE LIFE STUDY

ACC Poster Contributions
Ernest N. Morial Convention Center, Hall F
Monday, April 04, 2011, 3:30 p.m.-4:45 p.m.

Session Title: Hypertension in Special Populations
Abstract Category: 16. Hypertension
Session-Poster Board Number: 1114-300

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Background: In a recent study, black patients with in-hospital cardiac arrest were significantly less likely to survive to discharge than white patients. However, data on racial differences in sudden cardiac death (SCD) are conflicting and whether black hypertensive patients have a higher incidence of SCD during antihypertensive treatment has not been examined.

Methods: Incident SCD was examined in 533 black and 8660 non-black hypertensive patients with ECG left ventricular hypertrophy (LVH) randomly assigned to losartan- or atenolol-based treatment.

Results: Compared with non-blacks, blacks were younger, more obese, more likely to be male, smoke, have diabetes, prior ischemic heart disease and stroke, had higher baseline serum creatinine and albuminuria, less severe baseline LVH by Cornell product criteria and more severe LVH by Sokolow-Lyon voltage. During 4.8±0.9 years mean follow-up, SCD occurred in 178 patients (1.9%); 5-year SCD incidence was significantly higher in black than non-black patients (3.9 vs 1.9%, p=0.006). In univariate Cox analyses, black race was associated with a 97% higher risk of SCD (HR 1.97, 95% CI 1.19-3.25, p=0.015). In multivariate Cox analyses adjusting for randomized treatment, age, sex, body mass index, diabetes, history of heart failure, atrial fibrillation, MI, ischemic heart disease, stroke, peripheral vascular disease, smoking status, baseline serum total and HDL cholesterol, creatinine, glucose, urine albumin/creatinine ratio and for incident MI, in-treatment heart rate, diastolic and systolic pressure, Cornell product and Sokolow-Lyon voltage criteria for LVH treated as time-varying covariates, black race remained associated with a 98% increased risk of developing SCD (HR 1.98, 95% CI 1.12-3.59, p=0.020).

Conclusions: SCD is substantially more common among black than non-black hypertensive patients. The higher risk of developing SCD in black patients persists after adjusting for the higher prevalence of risk factors in black patients, treatment effects, in-treatment blood pressure and the known predictive value of in-treatment ECG LVH and heart rate for SCD in this population.