

Coronary artery calcification in black women and white women

Khurana Charanjit, Rosenbaum Christina, Howard B v, Adams-campbell Lucile, Detrano R, Klouj Afifa, Hsia Judith,
Am Heart J 2003;145:724-9

Background Coronary calcification is a potent independent predictor of coronary risk. Sex-specific risk categories based on calcium scores have been established, but ethnic differences in coronary calcification have been little studied. This prospective cohort study compares coronary calcification, assessed by computed tomography, in postmenopausal black women and white women.

Methods and Results Computed tomographic scans were performed on 128 black women and 733 white women without known coronary artery disease (mean age 63 ± 8 years). Although coronary risk factors were more prevalent among black women ($P < .0001$), total calcium scores were similar to those in white women. By use of the Framingham algorithm, higher calcium scores were associated with higher 10-year risk of myocardial infarction or coronary death. In multiple regression analysis, age was independently associated with higher calcium scores in both ethnic groups ($P = .002$ for black women, $P < .0001$ for white women).

Diabetes mellitus and not exercising at least 3 times per week were independently associated with higher calcium scores in white women but not black women. Educational level, body mass index, current hormone replacement therapy, hysterectomy, dietary fat consumption, family history of premature coronary disease, hypertension, self-reported high cholesterol, and current smoking were not independently associated with coronary calcium score in black women, white women, or the combined cohort; neither was ethnicity an independent predictor of coronary calcification.

Conclusions Despite higher dietary fat consumption, higher body mass index, and greater prevalence of hypertension, diabetes, and smoking, black women had coronary calcium scores similar to those of white women. Ethnicity was not an independent predictor of coronary calcification.