INFLAMMATORY AND HEMOSTATIC RISK FACTORS AND CORONARY ARTERY CALCIFICATION IN WOMEN OF BLACK AND WHITE RACE IN THE MENOPAUSAL TRANSITION: THE STUDY OF WOMEN'S HEALTH ACROSS THE NATION (SWAN) HEART STUDY

Poster Contributions
Hall C
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Background: Inflammatory and hemostatic markers are associated with clinical coronary heart disease (CHD), but the relationships in asymptomatic women are uncertain. Our objective was to test the hypothesis that four novel biomarkers are associated with coronary artery calcification (CAC) in women free of known CHD and stroke.

Methods: From 2001 to 2005, C-reactive protein (CRP), fibrinogen, plasminogen-activator inhibitor 1, and tissue plasminogen activator antigen were measured in women at the SWAN Heart study Pittsburgh and Chicago sites. These risk factors were log-transformed. CAC was obtained by computed tomography and classified as absent (CAC=0) or present (CAC >0) based on the Agatston score. Univariable and multivariable logistic regression were used for statistical analysis.

Results: A total of 372 women with a mean age of 51.3 years (SD, 2.8) were analyzed (131 (35.2%) black). There were 200 (53.8%) early peri-menopausal or premenopausal, 141 (37.9%) late peri-menopausal or postmenopausal, 12 (3.2%) with surgical menopause, and 19 (5.1%) with indeterminate status. In the univariable analysis, all novel risk factors were positively and significantly associated with CAC presence (p<0.001 for all). These were significant after adjusting for Framingham risk score, site, race, menopausal status, income, and education. None remained significant after adding body mass index to these covariates, but a significant interaction between race and log(CRP) was present in this model. In race-stratified multivariable analysis adjusted for the above covariates, insulin resistance index, and family history of cardiovascular disease, log(CRP) was significantly associated with CAC presence in blacks (OR, 3.18; 95% CI, 1.53-6.63; p=0.002), but not in whites (OR, 0.87; 95% CI, 0.62-1.22; p=0.4).

Conclusion: Inflammatory and hemostatic biomarkers are associated with CAC through obesity, except for the positive association of CRP with CAC in black women, which is independent of obesity. CRP may have a role in CHD prevention in black women undergoing the menopausal transition.