Non Invasive Imaging

ETHNIC DIFFERENCES IN CORONARY ARTERY CALCIUM SCORES BETWEEN NATIVE AMERICANS AND CAUCASIANS IN THE MIDWEST

Poster Contributions
Hall C
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Background: Coronary Artery Calcium (CAC) level has a direct correlation with total plaque burden and is an independent marker for risk of coronary events. While the Multi-Ethnic Study of Atherosclerosis trial looked at prevalence and progression of subclinical cardiovascular disease in various populations, there has been no large study looking at the prevalence of the CAC in Native Americans. Our study aimed to look at ethnic differences in CAC scores in Native American population compared to Caucasians.

Methods: The aim of our study was to identify the prevalence of CAC in Native Americans (n=2,052) in the Midwest compared to Caucasians (n=26,694) in the region. The study included retrospective analysis of data of patients between the ages of 40 and 85 who underwent voluntary health screening between April 24, 2008 and September 24, 2012. Patients with known cardiovascular disease were excluded. Analyzed data included Body Mass Index (BMI), Total Cholesterol (TC), High Density Lipoprotein (HDL) levels, blood pressure at screening, history of hypertension and diabetes and CAC scores. Differences between both ethnic groups and genders were examined.

Results: Native American males and females were found to have a higher BMI, prevalence of smoking, diabetes and hypertension when compared to Caucasians but this difference was statistically significant only in females. Calcium scores were also statistically higher in Native American males and females compared to their Caucasian counterparts (p<0.0001). Regression analysis of the data however revealed that ethnicity played only a minor role in accounting for variance in the calcium levels (R2 increased from 0.042 to 0.043 in males and from 0.045 to 0.046 in females when ethnicity was added to BMI, smoking, cholesterol, hypertension, and diabetes).

Conclusion: Native American males and females have a statistically higher CAC score compared to the Caucasian males and females respectively. However, after variables of BMI, smoking, cholesterol, hypertension and diabetes are accounted for, this difference is only minor.