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CORE 2. EPIDEMIOLOGY AND PREVENTION OF CV DISEASE:
PHYSIOLOGY, PHARMACOLOGY AND LIFESTYLE
SESSION TITLE: SUBCLINICAL ATHEROSCLEROSIS: RISK FACTORS,
PROGRESSION AND RISK PREDICTION

Abstract 14442: Ten-year Trends in Coronary Calcification in Individuals Without Clinical Cardiovascular Disease in the Multi-Ethnic Study of Atherosclerosis

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Abstract

Background. Coronary heart disease (CHD) incidence has declined significantly in the US, but whether trends in subclinical atherosclerosis mirror this trend is not known. We determined the secular trend in prevalence of coronary artery calcification (CAC) in a population over 10 years and compared trends in CAC to trends in CHD risk factors. Methods. We assessed risk factors and performed CT scanning for CAC in a population-based sample of men and women age 55-84 years at five examinations from 2000-02 to 2010-12. These exams were treated as separate cross-sectional samples; participants with clinical cardiovascular disease were excluded at baseline and subsequent exams. The size of each sample ranged from 3111 to 4867. We considered the effect of CT scanner technology changes and use of statin medications (which may

influence plaque composition and increase CAC scores). We also examined CHD risk factors over time, including a general Framingham Risk Score (GFRS) that predicts a broad range of CVD outcomes over 10 years. Results. The proportion of participants with no CAC (Agatston score=0) decreased over time from 40% to 31% ($p<0.0001$), while the proportion with CAC increased: 29% to 31% with CAC score 1-99 ($p=0.18$), 17% to 20% with CAC score 100-399 ($p=0.005$), and 14% to 18% with CAC score 400 or over) ($p<0.0001$). (See figure.) After adjusting for age, ethnicity, gender, and scanner, the prevalence of CAC was 8% higher in 2010-12 compared to 10 years earlier ($p=0.01$). Among participants not taking lipid-lowering medication, the prevalence of CAC was 5% higher, $p=0.27$). The GFRS decreased from 20.8% to 18.7%, although the prevalence of diabetes increased from 15% to 19%. Conclusion. The prevalence of CAC increased over 10 years accompanied by a decline in the GFRS but an increase in diabetes prevalence in the population.



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