

ORIGINAL INVESTIGATIONS

Femoral and Carotid Subclinical Atherosclerosis Association With Risk Factors and Coronary Calcium

The AWHS Study

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ABSTRACT

BACKGROUND Early subclinical atherosclerosis has been mainly researched in carotid arteries. The potential value of femoral arteries for improving the predictive capacity of traditional risk factors is an understudied area.

OBJECTIVES This study sought to evaluate the association of subclinical carotid and femoral plaques with risk factors and coronary artery calcium score (CACS) in middle-aged men.

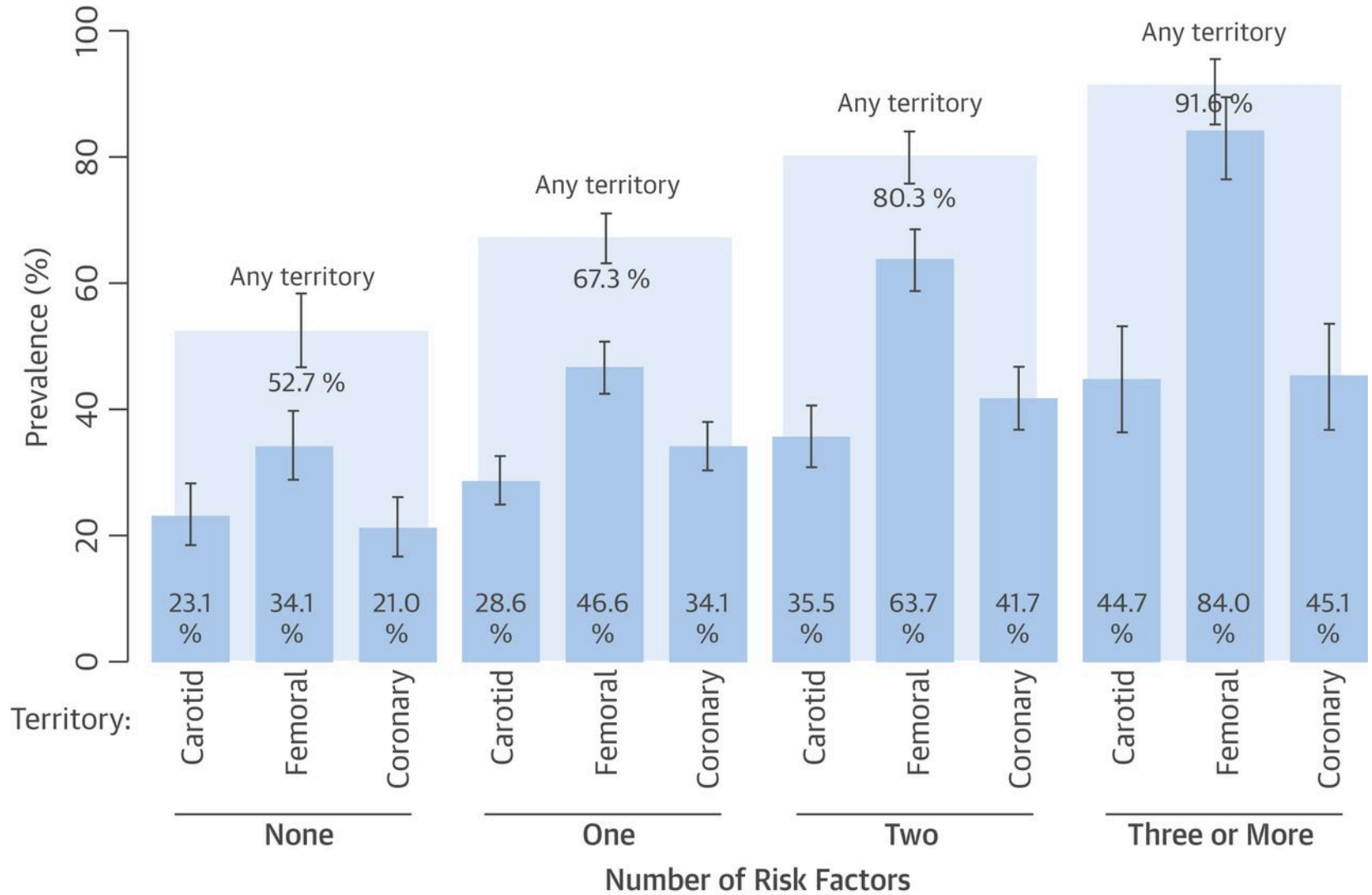
METHODS Participants (n = 1,423) of the AWHS (Aragon Workers' Health Study), a study designed to assess cardiovascular risk and subclinical atherosclerosis in a cohort of middle-aged men (40 to 59 years of age), underwent carotid and femoral ultrasound plus noncontrast coronary computed tomography. Subclinical atherosclerosis was defined as the presence of any plaque in carotid or femoral arteries and/or CACS ≥ 1 . Logistic regression models were used to estimate the prevalence of atherosclerosis adjusted for risk factors and age, to evaluate the association of atherosclerosis with risk factors, and to calculate areas under the receiver-operating characteristic curves for the presence of positive CACS.

RESULTS Subclinical atherosclerosis was found in 72% of participants. Plaques were most common in femoral arteries (54%), followed by coronary calcification (38%) and carotid plaques (34%). Association of atherosclerosis with risk factors was stronger in femoral arteries than carotid or coronary arteries. The area under the receiver-operating characteristic curve for prediction of positive CACS increased from 0.665 when considering only risk factors (dyslipidemia, current smoking, hypertension, diabetes, and age) to 0.719 when adding femoral and carotid plaques (p < 0.001). In this model, the femoral odds ratio (2.58) exceeded the carotid odds ratio (1.80) for prediction of positive CACS.

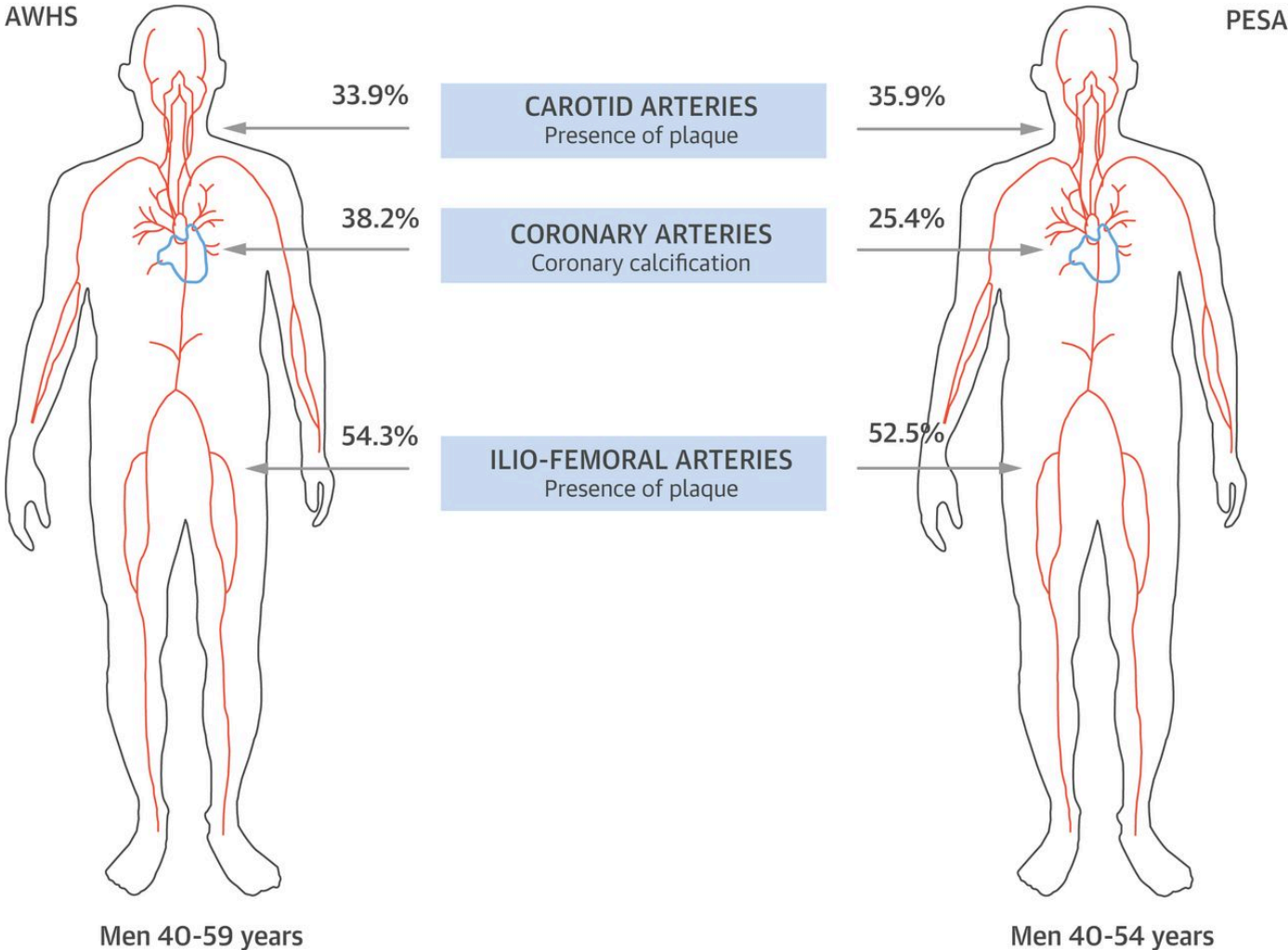
CONCLUSIONS Subclinical atherosclerosis was highly prevalent in this middle-aged male cohort. Association with risk factors and positive CACS was stronger in femoral than carotid arteries. Screening for femoral plaques may be an appealing strategy for improving cardiovascular risk scales and predicting coronary disease. (J Am Coll Cardiol 2016;67:1263-74) © 2016 by the American College of Cardiology Foundation.



Age-adjusted prevalence of atherosclerosis estimated for 50-year-old males



Prevalence of Subclinical Atherosclerosis in 2 Contemporaneous Cohort Studies



Laboratorio FCI



Dotazione

- Acquisto ecocardiografo top di gamma con sonda vascolare

Potenzialità

- **Studio funzione cardiaca**
- **Diagnosi preclinical di aterosclerosi**
 - Calcificazioni cardiache
 - Aterosclerosi vascolare: tronchi sovra-aortici, aorta addominale, asse iliaco-femorale

Progetto di prevenzione primaria cardiovascolare

Background

- La diagnosi preclinica di aterosclerosi permette un più accurato inquadramento prognostico rispetto ai tradizionali fattori di rischio (fumo, ipercolesterolemia, ipertensione, diabete, sedentarietà, sovrappeso)

Metodi

- Diagnosi preclinical di aterosclerosi mediante ecocardiografia ed ecografia vascolare

Progetto di prevenzione primaria cardiovascolare

Popolazione

- Soggetti a basso rischio Cardiovascolare in base ai tradizionali fattori di rischio
 - Età inferiore ai 65 anni
 - Esenti da precedent eventi cardiovascolari
 - Popolazione omogenea (es. Dipendenti da un'azienda)