

B-Mode—Detected Carotid Artery Plaque in a General Population

Rongling Li, Bruce B. Duncan, Patricia A. Metcalf, John R. Crouse, A. Richey Sharrett, H. A. Tyroler, Ralph Barnes, Gerardo Heiss, for the Atherosclerosis Risk in Communities (ARIC) Study Investigators

Background and Purpose: There is little information on the distribution of atherosclerotic lesions of the extracranial carotid artery wall in free-living populations. The purpose of the present study was to describe the prevalence from 1987 through 1989 of extracranial carotid artery plaque with acoustic attenuation (shadowing) lesions in a general population of white and black adults from four US communities.

Methods: B-mode ultrasound was used to characterize wall lesions in the common and internal carotid arteries and at the carotid artery bifurcation in 14 046 men and women 45 to 64 years old who participated in the Atherosclerosis Risk in Communities Study baseline survey.

Results: Thirty-four percent of participants has plaque and 6.4% had plaque with acoustic shadowing. The prevalence of plaque with acoustic shadowing increased steadily with age from 2.5% at ages 45 to 49 to 12.4% at ages 60 to 64. Overall, whites had more plaque with acoustic shadowing lesions than blacks (odds ratio [OR], 1.22; 95% confidence interval [CI], 1.02 to 1.46), and men had more than women (OR, 1.42; 95% CI, 1.22 to 1.63). However, plaque lesions in the common carotid artery were less common among whites than among blacks, and no racial difference was observed in the prevalence of plaque with acoustic shadowing at this segment.

Conclusions: Although these prevalence rates are likely to be underestimated because of the emphasis on arterial boundary visualization of the scanning protocol, they show a large, mostly asymptomatic burden of Atherosclerosis in these populations, especially among older individuals. Site-specific frequency rates of plaque varied between blacks and whites. Among those with plaque, however, whites had more lesions with acoustic shadowing attenuation.

Related to MS #163A