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DETECTION OF SUBCLINICAL ATHEROSCLEROSIS BY OFFICE-BASED CAROTID ULTRASOUND INCREASES PRESCRIPTION OF PREVENTIVE THERAPIES

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Background: Carotid ultrasound (CUS) screening is recommended as a cardiovascular disease (CVD) risk prediction tool, however its effects on physician decision-making are not clear, especially in the community setting. We prospectively studied the effects of office-based CUS screening on physician decision-making.

Methods: Participants included physicians from 5 non-academic, community practices who recruited patients that were ≥40 years old and had ≥1 CVD risk factor. Physicians and their staff were taught to perform CUS, measure carotid intima-media thickness (CIMT), and identify carotid plaques (CP). Physicians committed to a CVD risk management plan prior to the CUS. After the CUS, physicians could revise their plan, prior to sharing the results with the patient. Advanced atherosclerosis (AdvAthero) was defined as CIMT ≥75th percentile (for age, sex, and race) or the presence of CP. Multivariate hierarchical logistic regression models with change in patient management after CUS, nested by physician, were adjusted for risk factors and demographics (β [95% confidence intervals]).

Results: CUS was performed on 355 subjects (mean [standard deviation] 53.6 [7.9] years old, 2.3 [0.9] risk factors, 58% women]; 266 (74.9%) had AdvAthero. After CUS, physicians modified their target low-density lipoprotein cholesterol ($\chi 2$=189, p<0.001) and systolic blood pressure ($\chi 2$=75, p<0.001) goals. The presence of AdvAthero significantly altered physician prescription of aspirin (ß=6.6 [4.0-9.1], p<0.001) and cholesterol medication (ß=5.4 [4.3-6.4], (p<0.001), with a trend for antihypertensives (ß=4.0 [-0.4-8.4], p=0.073).

Conclusions: Community physicians can use CUS for CVD risk prediction in the office setting. Identification of AdvAthero alters CVD risk factor targets and increases prescription of preventive therapies. Its effects on long-term outcomes are not known.