5. Screening for Peripheral Arterial Disease

RECOMMENDATION

Routine screening for peripheral arterial disease in asymptomatic persons is not recommended. Clinicians should be alert to symptoms of peripheral arterial disease in persons at increased risk (see *Clinical Intervention*) and should evaluate patients who have clinical evidence of vascular disease.

Burden of Suffering

Peripheral arterial disease (PAD) becomes increasingly common with age. An estimated 12–17% of the population over age 50 have PAD.[1–4] Increased mortality has been well documented in patients with PAD, a disease that is strongly associated with coronary artery disease and that shares many of the same risk factors.[1,2,5–9] Although only a small proportion of individuals with PAD and intermittent claudication develop skin breakdown or limb loss, pain and associated disability often restrict ambulation and the overall quality of life.[1,5] Persons at increased risk for PAD include cigarette smokers and persons with diabetes mellitus or hypertension.[1,5,9,10] Diabetic PAD is responsible for about 50% of all amputations.[1]

Accuracy of Screening Tests

There is evidence that a history of intermittent claudication and the palpation of peripheral pulses are unreliable techniques for the detection of PAD.[1,3,8,11] In one study, a battery of noninvasive tests for PAD was administered to 624 hyperlipidemic subjects aged 38–82.[7] In this population, the sensitivity and positive predictive value of a classic history of claudication were only 54% and 9%, respectively, when compared with the results of formal noninvasive testing. The sensitivity of an abnormal posterior tibial pulse was 71%, the positive predictive value was 48%, and the specificity was 91%. An abnormal dorsalis pedis pulse had a sensitivity of only 50%; this artery is congenitally absent in 10–15% of the population.[11] The authors concluded that symptoms and abnormal pulses are not pathognomonic for PAD.[7] Greater accuracy has been achieved with noninvasive testing using Doppler ankle-arm pressure ratios, measurement of reactive hyperemia after exercise, pulse reappearance time, ultrasound duplex

scanning, and plethysmography.[1,5,12,13] At present, however, additional data on sensitivity, specificity, and positive predictive value of these tests in asymptomatic populations are needed before noninvasive testing can be considered for routine screening.

physical examination in the general population of asymptomatic adults, where the prevalence of PAD is low, is likely to produce a substantial number of false-positive results. Positive screening results will necessitate expensive noninvasive tests and may lead to potentially hazardous invasive tests such as arteriography. At the same time, it is not known whether the early detection of PAD in asymptomatic patients will result in more effective treatment of risk factors or better outcomes.

CLINICAL INTERVENTION

Routine screening for peripheral arterial disease in asymptomatic persons is not recommended ("D" recommendation). Clinicians should screen for hypertension (see Chapter 3) and hypercholesterolemia (Chapter 2), and they should provide appropriate counseling regarding the use of tobacco products (Chapter 54), physical activity (Chapter 55), and nutritional risk factors for atherosclerotic disease (Chapter 56). Clinicians should be alert to symptoms of PAD in persons at increased risk (persons over age 50, smokers, diabetics) and evaluate patients who have clinical evidence of vascular disease.

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