Evidence Discussion (PVD 2)

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Screening for Suspected Peripheral Artery Disease/Aneurysmal Disease
Routine screening for peripheral arterial disease in asymptomatic patients is not clinically indicated and has not been shown to improve patient outcomes. There are some familial and genetic conditions that may predispose individuals to aneurysmal disease and dissection.[1,2,3] In these cases, surveillance imaging has been shown to improve early detection and intervention when indicated.

In the case of aneurysms detected in patients with Spontaneous coronary artery dissection (SCAD), Marfan's, Loeys-Dietz and Ehlers-Danlos Type IV syndromes, ~~a~~ more frequent surveillance due to higher incidence of aneurysms and disease progression.[4,5]

While duplex imaging remains an effective modality for abdominal aortic surveillance, these conditions often involve the thoracic aorta as well as cerebrovascular and visceral vessel abnormalities that may be technically limited with this approach.[6,7,8] Because there is a high incidence of aneurysm development in multiple anatomic locations, CT/MR imaging is recommended for surveillance in this population when ultrasound imaging is limited.

There is an association between bicuspid aortic valve and thoracic aneurysm.[9] Individuals diagnosed with thoracic aneurysm should undergo CT/MR screening and follow standard surveillance intervals. The addition of cardiac-specific CT/MR has not shown benefit in these cases as the pathology is usually noted within the aorta.

Multisystemic Smooth Muscle Syndrome [MSMS], Smooth Muscle Dysfunction Syndrome [SMDS] and ACATA2 mutations have a high incidence of aneurysm development early in life and should undergo screening and routine surveillance after genetic confirmation.[10] To minimize radiation exposure in this pediatric population, MR and ultrasound imaging are recommended when possible.

References:

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