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See Article page 1668.

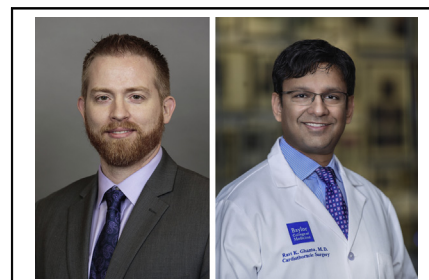


Commentary: Does a bulge beget a bulge? Association of abdominal wall hernias and aortic aneurysms

Douglas M. Farmer, MD, and Ravi K. Ghanta, MD

Aortic aneurysms have long been of clinical interest given the high mortality associated with rupture, which can be prevented with surgical repair. Abdominal wall hernias, a more common and benign entity, have been studied and compared with aneurysms in an attempt to find a shared pathophysiologic mechanism. Matrix metalloproteinase activity has been shown to be abnormal in patients with both hernias and aneurysms.^{1,2} Observational studies have been limited by small numbers. Larger studies have been done, but have not been inclusive of all abdominal hernia and aortic aneurysm patients.³ Given the low prevalence of aneurysms, routine screening via imaging is only indicated in patients with either known connective tissue disorders or with specific risk factors.⁴ Thus, identifying a common, benign diagnosis that may predict another less common and more lethal diagnosis could be of clinical significance for early detection and treatment.

Hung and colleagues⁵ report their findings of a retrospective, population-based cohort study to see if the presence of an abdominal wall hernia is associated with developing an aortic aneurysm. They used Taiwan's national health care database to identify all patients with nonincisional



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CENTRAL MESSAGE

Geriatric hernia patients had a higher incidence rate, adjusted hazard ratio and adjusted sub-distribution hazard ratio of aortic aneurysm and marginally high aneurysm rupture than did those without.

abdominal wall hernias who subsequently developed either a thoracic or abdominal aortic aneurysm within a 12-year period. Additionally, they compared rates of aneurysm rupture between hernia and nonhernia patients. Patients with known aneurysms at the time of hernia diagnosis, or those with known high-risk conditions for aneurysm formation, were excluded. In both unadjusted and risk-adjusted analysis, the incidence of aortic aneurysm was higher in those with a hernia than those without. This increase was significantly higher within the geriatric (age ≥ 65 years) subgroup. Moreover, patients in the hernia group who developed an aneurysm had a higher risk for rupture. They found no difference in the total number of imaging studies between groups, suggesting no detection bias for aneurysms.

There are several limitations to this study. First, the authors only considered new diagnoses of both hernia and aneurysm, thus only capturing a portion of a potentially longer time interval for aneurysm development. This may

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have simply been a limitation of their database. Second, certain known risk factors for hernias and aneurysms (eg, smoking and family history)^{6,7} were not included but are relevant given the multifactorial nature of both diseases. Similarly, because aneurysm prevalence differs by both race and geography, these findings might not be generalizable for groups with a higher disease burden.

This study is unique because it describes a large population and included all abdominal hernias and aortic aneurysms. It provides real-world clinical data suggesting an association between hernias and aneurysms. However, the authors correctly conclude that this study is not sufficient to deduce either direct correlation or causation, nor does it provide a strong enough basis to change current screening guidelines. A similar study with diverse cohorts of age, gender, and race over a larger time period would be of potential interest.

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See Article page 1668.

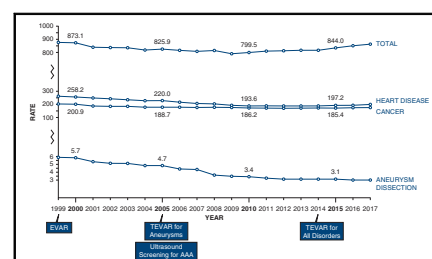
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Commentary: Everything matters

Anthony L. Estrera, MD, FACS, and
Haider Al Rustem, BS

During 2005, the US Preventive Services Task Force (USPSTF) provided a recommendation that 1-time ultrasound abdominal aortic aneurysm (AAA) screening in men aged >65 years with a family history of AAA or a history of smoking (>100 cigarettes in lifetime) was associated with reduced aortic rupture and related mortality.¹

The Centers for Medicare and Medicaid Services (CMS) subsequently approved payment for this screening with an appropriate referral as part of an Initial Preventive Physical Examination. During 2014, the USPSTF performed an updated analysis regarding screening for AAA that further



US mortality rate for total, heart disease, cancer, aneurysms, and dissection events per 100,000 population.

CENTRAL MESSAGE

Hernias may be associated with AAA but current guidelines for ultrasound screening do not include it as a risk factor. Further work is required to improve understanding and decrease the death rate from aneurysms and dissection.

corroborated the continued benefit of ultrasound screening, especially in late follow-up. This led CMS to lift the referral requirement on payment coverage of AAA ultrasound screening, such that any clinical provider could request the screening ultrasound.²

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