

## VASCULAR DISEASE

## Could AAA screening reduce mortality?

A systematic review and meta-analysis has shown that screening the general population of asymptomatic elderly men for abdominal aortic aneurysm (AAA) is associated with a 50% reduction in AAA-related mortality.

AAA rupture, which is often a fatal event, is commonly the first manifestation of an aneurysm. AAAs of treatable size (30–55 mm) are clinically ‘silent’ in the majority of patients. Screening for AAAs in high-risk populations could, therefore, help to identify these lesions at an early stage, and reduce morbidity and mortality.

From a total of 204 full-text papers identified in a literature search, four randomized controlled trials, which the investigators deemed to be of good or fair quality, were selected for the meta-analysis. In each of these trials (the Multicentre Aneurysm Screening Study [MASS]; the Viborg County, Denmark screening trial; the Chichester, UK screening trial; and the Western Australia screening trial), one-off ultrasonographic screening was investigated in asymptomatic men (or men and women in the Chichester study) aged  $\geq 64$ –65 years.

The prevalence of AAA was 4.0–7.7%, and the majority of detected lesions were small ( $< 40$ –45 mm). AAAs at risk of rupture ( $\geq 55$  mm) were detected in only 0.4–0.6% of trial participants. AAA mortality was significantly reduced in screened men compared with those who did not undergo screening in MASS (HR 0.58,  $P \leq 0.05$  at mean follow-up 4.1 years) and the Viborg trial (HR 0.33,  $P \leq 0.05$  at median follow-up 4.3 years); the risk of rupture was also reduced in these studies. AAA screening was not associated with a reduction in all-cause mortality. In the Chichester study, screening of women was not linked with reductions in AAA rupture or mortality. The investigators call for further research, using a “multifactorial risk calculator” to identify individuals for screening.

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