Commentary on ‘Low Post-operative Mortality after Surgery on Patients with Screening-detected Abdominal Aortic Aneurysms: A Swedvasc Registry Study’

E. Choke
Leicester Royal Infirmary, Leicester, UK

Death from abdominal aortic aneurysm (AAA) rupture can be significantly lowered through single screening with ultrasound scan in men aged 65–74 years. Nevertheless, AAA screening is not without risks. It is therefore a mandatory requirement that AAA screening programmes inform potential participants of any possible adverse outcomes. In the UK the National Health Service Abdominal Aortic Aneurysm Screening Program summarises the risks involved clearly and unambiguously in its standard national information leaflet sent to all men on invitation.

Historically, there were concerns over the implementation of a national AAA screening programme in the UK owing to high mortality after elective AAA repair (7.5%—double the average for the rest of Europe). Following an agreed action plan to reduce mortality from elective AAA repair through a quality improvement framework consisting of best practice standards for aortic surgery,1 the 30-day mortality after elective AAA surgery improved to 2.4%. It is imperative that the low mortality be maintained so that AAA screening will continue to be effective.

In this issue, Linne et al. compared postoperative mortality and morbidity between patients with screen-detected versus nonscreen-detected AAAs.2 They reported low postoperative mortality after AAA surgery and their data revealed no differences in postoperative mortality (at 30 days, 90 days, and 1 year) or morbidity between patients with screen-detected AAAs and age-matched controls. The effectiveness of AAA screening is clearly dependent on the safe management of any AAA detected, and the low postoperative mortality and morbidity in screen-detected AAA patients from the Swedish National Registry for Vascular Surgery (Swedvasc) are therefore very encouraging.

Linne et al. postulated that nonscreen-detected male patients with AAA will have more comorbidities that those detected through screening.2 Intuitively, this would seem reasonable, and Linne et al. suggested that nonscreened patients are more likely to be demographically disadvantaged towards lower levels of education and lower incomes,3 and also therefore more likely to be smokers and recent immigrants, with higher frequencies of stroke, diabetes, chronic obstructive pulmonary disease, and renal failure. The authors also reasoned that as nonscreen-detected AAAs are often detected incidentally through investigations for other diseases, they are therefore also more likely to have a higher disease burden. If this is true, then “healthier” screen-detected AAAs should demonstrate better postoperative outcomes.

However, data from the Swedvasc revealed no differences in comorbidities (besides lower age) in the screen-detected group than in the nonscreen-detected group. This could explain why patients with screen-detected AAAs demonstrated no superiority in postoperative outcomes compared with age matched patients with nonscreen-detected AAAs. Further analyses also failed to detect any differences in postoperative mortality between patients with screened-detected AAAs and all patients with nonscreened-detected AAAs (not age matched). These findings are in contrast to meta-analyses of four randomised controlled trials of AAA screening (supplemented by data from the Viborg Vascular screening trial),3 in which the risk to men with a screen-detected AAA of 30-day death was one-third of that of men with an incidentally detected aneurysm. However, it is important to point out that when the data from the meta-analyses were controlled for age, no 30-day survival advantage was demonstrated in the group with screen-detected AAAs.

The lack of any survival advantage in the group with screen-detected AAAs from the Swedvasc data should not necessarily detract from the beneficial effect of screening for AAAs. If anything, the very low postoperative mortality gives further support to national screening programs for the detection of AAAs in men and for a more widespread international adoption of AAA screening.

In terms of future work, factors to be considered other than the length of life are the postscreening quality of lives of participants. It is a recognised fact that in a minority of individuals the quality of life can be negatively affected by AAA screening; if this is true, perhaps support, as clinically indicated, may be a necessary feature of AAA screening programmes.
REFERENCES