

anaesthesia the accreditation committee of the Royal College of Anaesthetists makes it clear that special consideration will be given to the needs of those in such posts. As one who has recently become accredited from an academic post (lecturer, senior registrar grade), I can attest to the truth of this.

Two years in a numbered post in Britain does not seem an unreasonable requirement. Those who accept posts without a number should be aware that they may be heading up a blind alley. The responsibility for advising such doctors lies with the senior clinical and academic staff who permit the proliferation of unregulated posts which are not eligible for accreditation.

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1 Frew AJK. Specialist training and the EC. *BMJ* 1992;305:887. (10 October.)

Screening for abdominal aortic aneurysms

EDITOR.—It is not at all clear that screening along the lines proposed by P L Harris would have a large impact on reducing mortality from ruptured aortic aneurysms.¹ The best evidence for evaluating screening programmes comes from randomised controlled trials; unfortunately, none have been carried out to evaluate screening for aortic aneurysms. Because ruptured aortic aneurysms are a relatively rare cause of death, such trials are probably impractical because of the large samples required.² We must therefore use descriptive data to assess the likely benefits of screening.

From 1984 to 1988 inclusive, abdominal aortic aneurysms were responsible for an average of 5564 deaths a year,³ which is substantially below the 6000-10 000 that Harris quotes. Altogether 27.7% of these deaths occurred in women and 8.8% in men aged under 65; none of these deaths could have been prevented by screening men aged 65. Additionally, 30.0% of deaths occurred in men aged 75-84 and 6.3% in men aged over 84, with only 27.3% of deaths occurring in men aged 65-74, the main beneficiaries of the screening programme that Harris proposes.

The benefits of screening would be further reduced by non-compliance, especially if the prevalence of aortic aneurysms was higher in those who did not comply. No test has a sensitivity of 100%, and failure to detect all the aneurysms in the screened population would reduce the benefits still further. Some of the men diagnosed as having an aortic aneurysm might well be unfit for major surgery, and some other aneurysms would inevitably rupture during follow up.

As well as overestimating the benefits of screening, Harris underestimates the costs. The figure of £1 million a year that he says is required to run a national screening programme equates to £6000-£7000 per health authority. This would have to include the costs of equipment, establishing a case recall register, and employing and training staff. It is difficult to conceive how all this could be done for £7000 per health authority. At least 10% of the screened population would require further follow up for an indeterminate period, and Harris ignores the costs of this. Harris also underestimates the net costs of surgery: 2800 times £4000 equals £11.2 million, not £8 million. Up to 5% of the 4300 patients undergoing elective aneurysm replacement would die as a result of their surgery, and an unknown number of others would suffer major complications.

If screening for asymptomatic abdominal aortic

aneurysms is thought to be potentially worthwhile, further research is required into the epidemiology of the condition and into the full costs and benefits of screening, both financial and non-financial, before introduction of a national screening programme is considered.

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- 1 Harris PL. Reducing the mortality from abdominal aortic aneurysms: need for a national screening programme. *BMJ* 1992;305:697-9. (19 September.)
- 2 Lederle FA. Screening for snipers: the burden of proof. *J Clin Epidemiol* 1990;43:101-4.
- 3 Office of Population Censuses and Surveys. *Mortality statistics 1984-1988: cause. England and Wales*. London: HMSO, 1985-90.

EDITOR.—As organisers of one of the largest programmes of community based screening for aortic aneurysm (the Birmingham community aneurysm screening programme), we take issue with some of the correspondence arising from P L Harris's comprehensive review of the subject.¹ In Birmingham and Solihull we have now screened 8000 men aged between 65 and 74, achieving a compliance rate of 87% with a single invitation. The aortic diameter was >30 mm in 545 men and >45 mm in 165. To date, 135 men have had their aneurysms repaired, with a 30 day mortality of 1.5%. Since the introduction of screening, despite an overall increase in the number of aortic procedures there has been a pronounced reduction in elective mortality and morbidity and length of stay in hospital.

J M Mason and colleagues claim to have evaluated proposals for aortic screening in south Birmingham but chose to ignore local data from the Birmingham community aneurysm screening programme.² They used information selected from a narrow range of the world literature, and, as they have acknowledged, "some very strong assumptions" were needed to reach their conclusions (J M Mason *et al*, Health Economics Study Group, St Andrews, Scotland, June 1992). Local trends are important, and Birmingham seems to be experiencing excess mortality from aneurysms (the standardised mortality ratio for Birmingham was 160 in 1990 (Office of Population Censuses and Surveys)). This is perhaps reflected by the high prevalence of aortic aneurysms (8.4%) found by the Birmingham community aneurysm screening programme in the screened population of Birmingham compared with other published series and those areas outside Greater Birmingham that we have screened.

Deaths from aortic aneurysm are increasing in Britain, and it is depressing to see patients continuing to die in the community and depressing for surgical teams to spend long hours treating patients with a poor chance of survival. Unless we conclude that treating patients after rupture of aortic aneurysm is not worthwhile this will probably become increasingly common. At present, little other than screening shows promise of changing the situation. The aetiology of aneurysms is probably far more complex than Mason and colleagues suggest,⁴ and the introduction of public health measures, even if effective, would take many years to produce benefit and would not address the immediate problem.

Preliminary results of screening for aortic aneurysm have been encouraging, with good compliance rates, acceptable accuracy, and low costs compared with those of screening programmes for other diseases. The second phase of evaluation of aortic screening, to determine the effect on community mortality, must now be embarked on rapidly. The only way this can be done, as F G R Fowkes and colleagues suggest,⁴ is with well conducted randomised studies; to do this needs the full cooperation and understanding of

everyone concerned, both in the community and in hospital units. Reviews such as that reported by Mason and colleagues do not answer this vital question and jeopardise the establishment of such studies.

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EDITOR.—The arguments advanced by Azeem Majeed against a national screening programme for abdominal aortic aneurysms are specious, as is apparent from more careful consideration of the facts.

Ruptured abdominal aortic aneurysm is under-diagnosed as the cause of death in middle aged and elderly men.¹ As necropsy is not universal the mortality statistics from the Office of Population Censuses and Surveys² are believed to underestimate the number of deaths from this cause by a considerable margin.

Although new aneurysms may arise after the age of 65, these are unlikely to progress to rupture for at least another decade. This is why a single examination for men at 65 has been proposed. In the first year or two only a proportion of those at risk in this group will be identified, but this proportion will increase over time. More aneurysms could be detected by extending the scheme to include those with lower risk (women and younger men), but the law of diminishing returns would apply.

It is true that some men diagnosed as having abdominal aortic aneurysm may be unfit for surgery, but screening of asymptomatic individuals might identify a high percentage with low surgical risk.

On the question of costs the figure of £1m a year has been derived by extrapolating costs actually incurred in pilot studies³ and is therefore accurate. It will obviously be important not to undermine economies of scale by subdividing the total sum excessively. Majeed offers a simplistic mathematical correction to refute our estimate of the costs for additional operations expected to arise from nationwide screening. He fails to take account of the fact that the costs of emergency surgery are two to three times higher than those of an elective operation. After allowance for this difference a figure of £8m is realistic.

The need for continued research as advocated by previous correspondents⁴ is not disputed. It is appropriate for the Vascular Surgical Society to take the lead in this matter, and a specialist working group has been established to consider the issues in detail, identify deficiencies in current knowledge, and make specific recommendations regarding future progress. The merits of large scale randomised studies as suggested by Fowkes and colleagues and Mason and colleagues will be considered within this exercise. Progressive extension of screening programmes to encompass an increasing area of the country with detailed appraisal at each stage would seem to be a sensible way forward.

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