

Clinical examination for abdominal aortic aneurysm in general practice: report from the Medical Research Council's General Practice Research Framework

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SUMMARY

At the time of the 1992–1994 annual reviews in the thrombosis prevention trial, general practitioners (GPs) carried out clinical examination for aneurysms by abdominal palpation in 4171 men. When an aneurysm was suspected, the patient was referred to hospital for further investigation. Aneurysm was suspected in 60 men (1.4%) and confirmed in 25 (0.6%), the mean diameter of confirmed aneurysms being 5.0 cm (range = 3.1–8.0 cm). Of the 25 men in whom aneurysm was confirmed, 10 (40%) underwent elective surgery and one died while under investigation. Examination by abdominal palpation for aortic aneurysm, which is not widely used in either general practice or in hospital practice, other than vascular surgery, is clinically worthwhile even though not all aneurysms will be detected by this means.

Keywords: aneurysm; cardiovascular disease; men's health.

Introduction

ABDOMINAL palpation for aortic aneurysm is not routinely carried out even in those at high risk of cardiovascular disease. Antithrombotic treatment could influence the outcome of rupture through the extent of bleeding, or even earlier by contributing to the development of aneurysms.¹ In the thrombosis prevention trial,² it was therefore decided to try to detect as many undiagnosed aneurysms as possible so that trial treatment could be interrupted in men in whom aneurysms were suspected while the aneurysm was confirmed and, if necessary, while elective surgery was arranged. It was impractical to arrange ultrasound examination for all the men in the 108 participating practices. Instead, the general practitioners (GPs) were asked to carry out abdominal palpation of the aorta at the time of each man's annual medical examination.

Method

The thrombosis prevention trial of low-dose warfarin and low-dose aspirin in the primary prevention of ischaemic heart disease in high-risk men aged between 45 and 69 years was carried out

through 108 practices in the Medical Research Council's General Practice Research Framework. The findings reported here come from the annual medical examinations in the three years 1992–1994 inclusive, the requirement for abdominal palpation of the aorta being introduced in January 1992. The examining GP recorded aneurysm as 'suspected' or 'not suspected'. When an aneurysm was suspected, the patient was referred to hospital (with one exception). Men dying of ruptured abdominal aneurysms during the study period were identified through the National Health Service central register in Southport. A total of 2310 men were examined for aneurysms on three occasions. The 1861 men who entered the trial between 1992 and 1994 — after the requirement was introduced — or who entered before 1992 but withdrew between 1992 and 1994, were examined for aneurysms either once or twice.

Results

Table 1 shows that aneurysms were suspected in 60 men (1.4%) and confirmed in 25 men (0.6%). Of the 60 suspected aneurysms, 49 (82%) were detected at a first examination.

All but one of the 60 men in whom aneurysm was suspected were referred to hospital for further investigation. (One man refused.) According to local definitions in the hospitals concerned, aneurysm was confirmed in 25 (42%) of the men seen in hospital, the mean aneurysmal diameter being 5.0 cm (range = 3.1–8.0 cm). Elective repair was planned for 11 (44%) of the 25 confirmed cases; seven of these aneurysms were detected at a first examination and four at a second. Surgery was carried out in 10 of the 11 men, with one man dying of ruptured aneurysm while awaiting further investigation. By mid-1996, rupture had occurred in six of the 4111 men examined but not suspected of having aneurysms. All six men died, three during or soon after surgery and three before surgery could be carried out.

Discussion

Our results show that routine abdominal palpation for aortic aneurysm in men at high risk of cardiovascular disease is worthwhile. The examination itself is virtually cost free.

Ruptured aneurysms occurred in 15 of the men in the thrombosis prevention trial who were or had been taking warfarin, compared with three men who had not ($P = 0.01$).² The detection of aneurysms may be of considerable practical importance in any setting in which warfarin is being considered, particularly for the patients with atrial fibrillation who have contributed to a substantial rise in the numbers using oral anticoagulation over the past five years.

Another study found that 43% of aneurysms detected on ultrasound and 57% of aneurysms 4 cm or more in diameter were also detected by physical examination.³ Thus, while abdominal palpation will not detect all aneurysms, it will probably lead to a sufficiently high proportion of confirmed cases, for many of whom elective repair is indicated to be worthwhile.

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Table 1. Suspected and confirmed abdominal aortic aneurysms and outcome.

Men examined (n = 4171)	Examination when suspected		
	First	Second	Third
Once	922	10	
Twice	939	15	4
Three times	2310	24	6
Referred to hospital			1
Outcomes of aneurysms confirmed in hospital			
Elective repair			59
Died awaiting further investigation			10
Followed conservatively			1 ^a
Total			14
Ruptures			25
In those suspected			1 ^a
In those not suspected			6
Total			7

^aDied (same man).

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