CASE REPORT

Abdominal aortic feminism

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Accepted 30 October 2014

SUMMARY

A 79-year-old woman presented to a private medical practice 2 years previously for an elective ultrasound screening scan. This imaging provided the evidence for a diagnosis of an abdominal aortic aneurysm (AAA) to be made. Despite having a number of recognised risk factors for an AAA, her general practitioner at the time did not follow the guidance set out by the private medical professional, that is, to refer the patient to a vascular specialist to be entered into a surveillance programme and surgically evaluated. The patient became symptomatic with her AAA, was admitted to hospital and found to have a tender, symptomatic, 6 cm leaking AAA. She consented for an emergency open AAA repair within a few hours of being admitted to hospital, despite the 50% perioperative mortality risk. The patient spent 4 days in intensive care where she recovered well. She was discharged after a 12 day hospital stay but unfortunately passed away shortly after her discharge from a previously undiagnosed gastric cancer.

BACKGROUND

Abdominal aortic aneurysms (AAAs) are well known to be more common among males; however, there is evidence to suggest that the prognosis for females is worse. Given this fact, it may be reasonable to suggest that further research is necessary to provide a rational explanation for exclusion of women from the screening programmes currently in place. There is a higher rupture rate in women and rupture appears to occur in aneurysms of a smaller diameter. It also appears that women develop AAAs at an older age than men do. These facts together suggest that a more reliable method of diagnosing AAAs is needed in order to prevent deaths from ruptured AAAs in women. Targeted screening of women from at-risk populations could be a viable and cost effective option, however, more research is required to assess such a proposal.

CASE PRESENTATION

A 79-year-old woman who had been diagnosed with an AAA 2 years previously presented to a general practitioner with loss of appetite, back pain radiating to the abdomen and general malaise. On physical examination a pulsatile, expansile mass was palpated and the patient was advised to attend accident and emergency (A&E) department. Since her diagnosis, the patient had received no follow-up and the initial size of her aneurysm was not known. Her other medical conditions of note were hyperlipidaemia, arthritis and chronic obstructive pulmonary disorder. It is also important

to note that she was a lifelong smoker prior to quitting 8 years ago.

INVESTIGATIONS

In A&E, CT scanning was undertaken and confirmed the presence of a leaking, 6 cm AAA. The patient was also cross-matched for intraoperative blood transfusion.

TREATMENT

The patient underwent an emergency open AAA repair under general anaesthetic carrying a 50% perioperative mortality risk. She required three units of blood intraoperatively but there were no surgical complications.

OUTCOME AND FOLLOW-UP

The patient spent 4 days in intensive care postoperatively and recovered well over this period. Shortly after her transfer to the vascular ward, she developed hospital acquired pneumonia for which she was treated with oxygen therapy and intravenous piperacillin/tazobactam. She recovered quickly and was discharged following a 12-day hospital stay.

Follow-up appointments were not attended as the patient passed away from a previously undiagnosed gastric cancer with metastases shortly after her discharge from hospital.

DISCUSSION

The review 'Screening for AAA s'¹ from the Cochrane database was carried out to explore the extent to which a screening programme for AAA can affect survival rates, management of the disease and the quality of life of the individuals screened.¹ Using four sets of data from randomised control trials, the review concludes that men who are screened have a significantly higher chance of survival than those who do not undergo screening.¹ However, only one of the studies, the Chichester trial, included women in their research.² Owing to this, and considering the relatively smaller population size used in this study, Cosford *et al*¹ infer that the benefit of screening women cannot be quantified and that further research should be carried out in order to conclude whether women should be invited to screening.¹

Authors of the Chichester trial concluded that it did not seem cost effective to screen women due to the lower prevalence of AAA in this population.² However, the trial raised interesting issues regarding the average later onset of rupture in women and the authors made the proposition that screening may be more beneficial if carried out in 75-year-old women as opposed to 65-year-olds as is currently the case in men.² Also, in this trial,

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To cite: Mortimer AE. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2014-205541

Figure 1 Overview of NHS care pathway currently in place. Adapted from Map of Medicine (AAA, abdominal aortic aneurysm; NHS, National Health Service).³

repair of the AAA was considered when the aneurysm reached 6 cm in diameter, larger than that generally accepted today (5.5 cm), as outlined in the National Health Service care map.^{2,3} Moreover, the UK Small Aneurysm Trial documented that the average aneurysm diameter at the time of rupture was 5 cm in women and 6 cm in men.⁴ Following this finding, the authors then suggest that it may be appropriate to consider different surgical thresholds for men and women.⁴

It is widely accepted that smoking is a risk factor for the development and subsequent rupture of AAAs, in women and in men.⁴ Therefore, it may be rational to expect that, as the gap is narrowing between the proportion of men and women who smoke, the proportion of women with AAA may increase relative to this increasing risk factor burden for the disease.⁵ ‘Targeted screening’ of women with recognised risk factors for AAA, such as those with known cardiovascular disease and/or long-term smokers has been suggested.⁵ Other risk factors that may be associated with the development of AAA include hypertension, obesity, hypercholesterolaemia and cerebrovascular disease, and these may be taken into account when deciding on which women to screen.⁶

In the population of women who have a significant family history of AAA, the prevalence of the disease can be up to 8.3%.⁷ This further corroborates the point that women with known risk factors for the disease are likely to make reasonable and cost-effective candidates for screening.^{5,7}

Whether women are to be included in screening in the future or not, appropriate follow-up of all patients diagnosed with AAA should be undertaken, as was the case in the Multicentre Aneurysm Screening Study (MASS).⁸ The surveillance intervals currently in place are the same as those used in the MASS⁸ and are outlined in figure 1.

A key publication involved in the evidence base for these surveillance intervals is the UK Small Aneurysm Trial.⁹ The aim of the trial was to ascertain whether small aneurysms are better treated surgically or if a ‘watch and wait’ approach could be employed by means of surveillance.⁹ The results showed no benefit in performing open AAA repair on small aneurysms (<5.5 cm) and that surveillance was the more cost effective option.⁹ In this study, the proportion of women involved compared with men was small (17.2%) and these results show that, in the groups randomised to surveillance, 73% of women died over the 12-year period compared with 65% of men.⁹ This may

provide further evidence to suggest that earlier intervention is necessary in females, as discussed in an earlier publication from the UK Small Aneurysm Trial.⁴

Learning points

- ▶ In the absence of an abdominal aortic aneurysm screening programme for women, healthcare professionals should keep in mind a diagnosis of abdominal aortic aneurysm in women presenting with back/abdominal pain and those with risk factors.
- ▶ There is the potential for more research to be carried out to assess cost effectiveness of targeted screening of women with risk factors.
- ▶ Appropriate follow-up is key in the management of abdominal aortic aneurysms to minimise the risk of rupture.

Acknowledgements The author thanks Mr Rahi for his continued support.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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