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Title:

Should Asian Men Be Included In Abdominal Aortic Aneurysm Screening Programmes?

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Asian Men and Aneurysm Screening?

ABSTRACT

Should Asian men be included in the abdominal aortic aneurysm screening programmes?

Introduction

A national AAA screening programme for men aged 65 is shortly to be implemented in England. Evidence for this screening programme has not included information on ethnicity and so their findings may not be applicable to ethnically diverse populations.

Report

This study looked at the prevalence of AAA in men aged 65, from different ethnic backgrounds in our city's current screening programme. 19014 men (Caucasians n=18431, Asian n=446, others n=137) were screened. Prevalence was 4.69% (4.39%-5% 95% CI), and 0.45% (0.054% - 1.161% 95% CI) in Caucasians and Asians respectively. (Fisher's exact test: $P < 0.0001$)

Discussion

Prevalence of AAAs in men aged 65 of Asian origin appears to be low and so increases uncertainty about cost-effectiveness in screening Asian men.

Keywords: Abdominal Aortic Aneurysm, Screening, Asian

Introduction

An AAA screening program for men aged 65 is to be introduced this year in England.

Evidence of benefit for AAA screening in men has come from 4 randomised trials, showing a highly significant reduction in aneurysm-related mortality in the screened population¹.

The above trials provided no data on race or ethnicity of the participants and therefore their findings may not be applicable to ethnically diverse populations.

Our city has a higher than average population of Asians from the Indian subcontinent. The aim of this study was to establish whether the prevalence of AAA amongst Asian men is different to Caucasian men in our screening programme.

Report

We have been undertaking AAA screening in participating general practices in Leicester since 1993. According to the data in the last census, approximately 30% of the population in Leicester classed themselves as Asian, with Asian defined as those originating from the Indian sub-continent².

A total of 66 general practices (40% of total practices, covering approximately 60% of the city's population) participate in our screening programme. All men aged 65 were invited for an abdominal USS at their local general practice. Ethnic origin data was obtained by self-assignment and recorded in all men. Data was collected prospectively from 1993 through to 2008 and was analysed with the help of a medical statistician.

During the 15 year period between 1993 and 2008, 19014 men were screened (Caucasians n=18431, Asian n=446, Afro-Caribbean n=102, other n=35). An AAA was detected in 871 participants (Caucasians n=865 (4.69%)(4.39%-5% 95% CI), Asian n=2(0.45%)(0.054%-1.61% 95% CI) OR= 0.091 (95%CI 0.023 , 0.367), Afro-Caribbean n=4(3.9%)(1.07%-9.7% 95% CI) OR=0.829 (95%CI 0.304 , 2.258), other n=0). There was a statistically significant difference in prevalence between Caucasian and Asian men (P<0.0001, Fisher's Exact Test).

Discussion

This study confirms that the prevalence of AAA in Caucasian men (4.69%) is similar to that reported previously³. However, the prevalence in Asian men is significantly lower and is consistent with the observations of other reported series with variation in peripheral arterial disease seen in different ethnic groups^{4,5}. AAAs appears to be predominantly a disease of Caucasians, where as Asians have a tendency towards distal-occlusive disease predominantly coronary heart disease.

The low screening rate of Asian men in comparison to the Asian population could account for the difference in prevalence seen, and one major limitation of our part-population screening programme is that attendance rates were not recorded. We have confirmed that 40% of GP practices involved in our screening programme were from areas with a high Asian population ensuring that Asian men aged 65 were being invited equally, but actual numbers attending compared to those invited is unknown. One reason for the low number of screened Asians could be that the large Asian population is still young. Data from the last census showed that only 5% of Asians are over 65 compared to 9% and 16% of Afro-Caribbean's and Caucasians respectively², which reflects the large scale migration patterns of ethnic minority groups to the UK between 1950 and 1970.

The evidence for the national AAA screening programme is derived from 4 randomised trials¹. The participating centres in the two trials conducted in the United Kingdom were Chichester, Oxford, Portsmouth, Southampton and Winchester. According to census data, all of these cities have an Asian population of less than 5%, whereas in Leicester the Asian population is around 30%. As the above trials did not record data on ethnic origin, it is not clear whether their findings are applicable to ethnically diverse populations and in particular

to cities in England with a very high proportion of Asians such as Blackburn, Wolverhampton and several boroughs of London².

Given the lack of robust data on AAA in different racial/ethnic groups, the increasing population of mixed-race individuals and the ethical dilemmas raised with excluding certain individuals based on race, Asian men cannot be excluded from the AAA screening programme.

A study by Lindholt et al⁶ found equal efficacy in screening high risk and low risk individuals for AAAs, and so given the relatively low cost of scanning, cost-effectiveness may be largely unaffected in a national screening program where only 15% of non-Caucasians are over 50-years old². An advanced cost effective analysis of screening low risk individuals is needed.

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