



Title Efficacy and Effectiveness of Screening for Abdominal Aortic Aneurysm in a High-Risk Population. Cost-Effectiveness Analysis. Applicability in the National Health Care Service

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Reference Report no. INF 2007/01. www.sergas.es/MostrarContidos_N3_To2.aspx?IdPaxina=60056&uri=/Docs/Avalia-t/INF2007_01%20CRIBADO%20Aneurisma%20AORTA.pdf&hifr=1000&seccion=0

Aim

To evaluate mass screening for abdominal aortic aneurysm (AAA) in risk groups and its applicability in the National Health Service (NHS).

Conclusions and results

Conclusions: Ample, high-quality, scientific evidence is available. Studies show that AAA screening in men aged 65 to 75 years decreases AAA-associated mortality and follow-up of AAA of 3 to 5 cm. As the follow-up time increases there is a decrease in the number of men to screen and an increase in the number of life-years gained. Open surgery has lower mortality when it is scheduled, but not when it is emergent. Mass screening for AAA by abdominal ultrasound is recommended in men aged 65 to 75 years.

Results: One systematic review, 1 meta-analysis, and 7 retrospective articles that met the selection criteria. The review and meta-analysis analyzed 36 studies, the most important being: Wester (Australia) with 41 000 men aged 65 to 79 years; Chichester (UK) with 6433 men and 9342 women aged 60 to 80 years; Viborg (Denmark) with 12 639 men aged 64 to 73 years; and MASS (UK) with 67 800 men aged 65 to 74 years. All of the studies used ultrasound as the screening method, defining aneurysm as a dilation with a diameter ≥ 3 cm. The other 7 articles not included in the review or the meta-analysis also used ultrasound screening and defined AAA the same as the previous authors. The current meta-analysis, which includes the later studies, does not modify the conclusions from the previous systematic review and meta-analysis undertaken by the Task Force. The economic evaluation search yielded 222 abstracts, of which 24 were read in full text. Only 13 met the selection criteria, most of which were European (10/13). The most recent studies present the results in AVAG or AVAC, but the studies published before 2000 give results only in terms of costs. The applicability in the NHS was assessed using a theoretical simulation of a program for AAA screening in the Galician Autonomous Community

(Spain), where the results advise a screening program since 40 to 42 lives could be saved annually.

Recommendations

Screening is recommended in risk groups, eg, smoking women, men and women older than 50 years with a history of AAA in the first-degree family. It is recommended to follow patients when the AAA is ≥ 3 cm and to treat with open surgery or EVAR if AAA is 5 to 5.5 cm, grows >1 cm/year, and/or when the patient presents symptoms.

Methods

Scientific literature from 1976 to April 2006 was systematically reviewed in two phases. First search: 1976 to 2005, specific and not exhaustive. Second search: 2005 to April 2006, exhaustive and not very specific. Selection criteria: study design (systematic revisions, clinical meta-analysis, clinical trials, and cohort), outcome measures assessed (reduction of mortality by AAA, long-term survival, quality of life). Literature up to July 2006 was searched for economic studies. Selection criteria: complete economic evaluation in adult populations screened by abdominal ultrasound. There were no language restrictions.

The following databases were searched: MEDLINE, EMBASE, HTA, DARE, NHS EED, Cochrane Collaboration, NIH, CenterWacht, CCT, NCI, Medical Research Council, NTIS, IME (Índice Médico Español-Spanish Medical Index), and NRR. For economic literature: MEDLINE, HTA, DARE, NHS EED, Cochrane Library Extra, IME, and IBECS (Índice Bibliográfico en Ciencias de la Salud).