TOO MANY SMALL ANEURYSMS ARE BEING TREATED BY EVAR IN THE US

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Disclosures
• Consultant: Arsenal Medical, Boston Scientific, Endologix, Medtronic
• Speaking: Cook
• DSMB: Bard

SMALL ANEURYSM CARE
• Randomized trials – open vs surveillance
• Randomized trials – EVAR vs surveillance
• Review of current repair information
• Outcomes of EVAR

UKSAT
• 1090 patients enrolled
• Mean f/u 12 years
• 75% of surveillance group ultimately underwent aneurysm repair
  • Diameter of 5.5cm
  • Diameter increase of >1cm/yr
  • Tenderness or symptoms related to the aneurysm

Final 12-year follow-up of Surgery versus Surveillance in the UK Small Aneurysm Trial

UK Small Aneurysm Trial participants:
Vascular Surgery Research Group, Imperial College, Charing Cross Hospital, London, Department of Public Health Sciences, University of Edinburgh, Edinburgh and Medical Research Council Respiratory Unit, University of Sydney, Australia, Cambridge, UK.

Time to repair

Fig. 3 Time to aneurysm repair. Data were not censored at the date of death for those without documented aneurysm (AMA repair).
Mortality

ADAM

- 1136 patients enrolled
- Mean f/u 4.9 years
- 62% of surveillance group ultimately underwent aneurysm repair
  - Diameter of 5.5cm
  - Diameter increase of >1cm/yr
  - Tenderness or symptoms related to the aneurysm
  - 9% repaired outside of criteria

Causes of Death

<table>
<thead>
<tr>
<th>Cause of death</th>
<th>Surgery (n = 348)</th>
<th>Surveillance (n = 573)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All deaths</td>
<td>362</td>
<td>352</td>
</tr>
<tr>
<td>Cardiovascular</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total cardiovascular</td>
<td>204 (58.4)</td>
<td>222 (90.6)</td>
</tr>
<tr>
<td>Myocardial infarction</td>
<td>58 (16.9)</td>
<td>58 (16.9)</td>
</tr>
<tr>
<td>Stroke</td>
<td>17 (5)</td>
<td>17 (7)</td>
</tr>
<tr>
<td>Thoracic aortic aneurysm rupture</td>
<td>9 (2.6)</td>
<td>14 (6)</td>
</tr>
<tr>
<td>AAA rupture (with or without surgery)</td>
<td>26 (7.5)</td>
<td>36 (13.1)</td>
</tr>
<tr>
<td>Primary rupture</td>
<td>11 (3.2)</td>
<td>23 (8.5)</td>
</tr>
<tr>
<td>Secondary rupture</td>
<td>2 (0.6)</td>
<td>2 (0.6)</td>
</tr>
<tr>
<td>Other cardiovascular</td>
<td>74 (21.0)</td>
<td>70 (25.9)</td>
</tr>
<tr>
<td>Cancer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total cancer</td>
<td>89 (24.5)</td>
<td>67 (24.0)</td>
</tr>
<tr>
<td>Lung</td>
<td>23 (6.6)</td>
<td>31 (1.1)</td>
</tr>
<tr>
<td>Other cancer</td>
<td>56 (15.5)</td>
<td>40 (14.1)</td>
</tr>
<tr>
<td>All other deaths</td>
<td>87 (24.5)</td>
<td>63 (22.6)</td>
</tr>
<tr>
<td>Unknown (patient died before)</td>
<td>2 (0.6)</td>
<td>1 (0.3)</td>
</tr>
</tbody>
</table>
OUTCOMES

PIVOTAL
- 728 patients enrolled
- Mean f/u 20 months
- 62% of surveillance group ultimately underwent aneurysm repair
  - Diameter of 5.5 cm
  - Diameter increase of > 0.5 cm/6 mo
  - Tenderness or symptoms related to the aneurysm

Endovascular repair compared with surveillance for patients with small abdominal aortic aneurysms
Kenneth Osses, MD, David G. Chaie, MD, K. Craig Kerre, MD, and Christopher K. Zarrin, MD, for the PIVOTAL Investigators, New York, NY, Cleveland, Ohio, Madison, Wis, and Palo Alto, Calif

Time to Repair

Mortality

Aneurysm rupture and aneurysm related mortality
- 5 surveillance patients required open repair (2.7%)
Comparison of Surveillance Versus Aortic Endografting for Small Aneurysm Repair (CAESAR): Results from a Randomised Trial

P. Cao a,⁎, P. De Rango a, F. Verzini a, G. Pariani b, L. Romano b, E. Cieri b, for the CAESAR Trial Group a

a Vascular Surgery Unit, Department of Cardiothoracic, Hospital S. Camillo – Forlanini, Prato, Rome, Italy
b Vascular and Endovascular Surgery Unit, Hospital S. Maria Aemilia, University of Pescara, Pescara, Italy

Submitted 31 July 2010; accepted 26 August 2010
Available online 25 September 2010

PIVOTAL

• 360 patients enrolled
• Mean f/u 54 months
• 62% of surveillance group ultimately underwent aneurysm repair
  • Diameter of 5.5cm
  • Diameter increase of > 0.5cm/6mo
  • Tenderness or symptoms related to the aneurysm

Mortality

Time to Repair

• 14 patients in surveillance require open repair
• 2.2% conversion
• 6% reintervention

Aneurysm Growth
Repair Below Guidelines

Variations in AAA management

Regional variation exists in patient selection and treatment of abdominal aortic aneurysms

Sara L. Zettervall, MD, MPH, Dominique B. Beck, MD, Peter A. Sören, MD,*
Jack L. Grossman, MD, Philip P. Goodney, MD, Muhammad H. Elkanty, MD,† Jason T. Lee, MD,
and Marc L. Schermerhorn, MD, on behalf of the Society for Vascular Surgery Vascular Quality
Initiative, Boston, Mass; Washington, DC; Lebanon, MD; and Sanford, CA.

Indication for Small Aneurysm Repair

- Median size at repair
  - EVAR = 5.4cm
  - Open = 5.7cm

Freedom from Rupture or Reintervention

Reintervention is NOT Benign

Open versus Endovascular Abdominal Aortic Aneurysm Repair in Medicare Beneficiaries

Sarah E. Deery, MD and Marc L. Schermerhorn, MD
Beth Israel Deaconess Medical Center

HHS Public Access

Author manuscript

Available in PMC 2018 October 01.

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ANEURYSM REPAIR

• Should be performed according to guidelines
• Guidelines based upon best available evidence
• Small aneurysm repair does not make clinical, economic, or overall sense