15-year EVAR 1 follow up – benchmark for newer technologies

Roger Greenhalgh
Disclosure

Speaker name:
Roger Greenhalgh

I have the following potential conflicts of interest to report:

- Consulting
- Employment in industry
- Stockholder of a healthcare company
- Owner of a healthcare company
- Other(s)

I do not have any potential conflict of interest
Individual Patient Data meta-analysis (IPD)

Combines actual results of EVAR, DREAM, ACE and OVER

Supported by all 4 trial management committees and principal investigators

- DREAM – Jan Blankensteijn
- ACE – Jean-Pierre Becquemin
- OVER – Frank Lederle

Datasets at Charing Cross, Imperial College
Statistical analysis at University of Cambridge
<table>
<thead>
<tr>
<th>Study</th>
<th>Participants</th>
<th>&gt;5.5cm</th>
<th>&gt;5.0cm</th>
</tr>
</thead>
<tbody>
<tr>
<td>EVAR 1</td>
<td>1,252</td>
<td>5y</td>
<td>8y</td>
</tr>
<tr>
<td>DREAM</td>
<td>351</td>
<td>8y</td>
<td>9y</td>
</tr>
<tr>
<td>ACE</td>
<td>316</td>
<td>9y</td>
<td>10y</td>
</tr>
<tr>
<td>OVER</td>
<td>881</td>
<td>10y</td>
<td>15y</td>
</tr>
</tbody>
</table>
The length of follow up for each study:

- EVAR 1: 15 years
- DREAM: 6 years
- ACE: 3 years
- OVER: 9 years

The mean follow-up time to be used for the meta-analysis is 4.7 years.

The common variables are to be chosen from the following but have not yet been finalised:
- Age, sex, BMI, diabetes, smoking history, ABPI (except ACE), creatinine,
- previous history of angina/MI, max AAA diameter, AAA neck diameter and AAA neck length.
EVAR 15 year follow-up

Primary objective: Aneurysm related mortality
Secondary objectives: All-cause mortality, complications and re-interventions, secondary rupture rates and costs.

We obtained the follow up for 68% of patients with EVAR and 34% with Open Repair

Hospital Episode Statistics (HES) data has been obtained in 663 patients with EVAR 1
EVAR Trial 1

1252 TOTAL

626 EVAR

365 EVAR still alive

626 open repair

361 open repair still alive

2009
EVAR

Local follow-up 250 (68%)

Still alive without follow-up 28 (8%)

Dead without follow-up 87 (24%)
Open Repair

- Local follow-up 123 (34%)
- Alive without follow-up 94 (26%)
- Dead without follow-up 144 (40%)
### Aneurysm-related mortality

#### Percentage surviving without AAA death

<table>
<thead>
<tr>
<th>Time from randomisation (years)</th>
<th>Number at risk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>EVAR</strong></td>
</tr>
<tr>
<td>0</td>
<td>626</td>
</tr>
<tr>
<td>2</td>
<td>543</td>
</tr>
<tr>
<td>4</td>
<td>472</td>
</tr>
<tr>
<td>6</td>
<td>312</td>
</tr>
<tr>
<td>8</td>
<td>101</td>
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</table>

#### 8 year KM estimates

- >50% of aneurysm-related mortality >30d attributable to endograft rupture
Effect of evidence that EVAR works

European Vascular and Endovascular Monitor (EVEM): EVAR vs OPEN 2003-2012

**Western Europe Procedures**

![Graph showing EVAR vs OPEN procedures from 2003 to 2012.](image)

**Y-O-Y Growth Rate**

<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>EVAR</td>
<td>9%</td>
<td>39%</td>
<td>18%</td>
<td>1%</td>
<td>4%</td>
<td>4%</td>
<td>14%</td>
<td>15%</td>
<td>8%</td>
</tr>
<tr>
<td>Open</td>
<td>-5%</td>
<td>-9%</td>
<td>-5%</td>
<td>-4%</td>
<td>-3%</td>
<td>-10%</td>
<td>-8%</td>
<td>-11%</td>
<td>-34%</td>
</tr>
</tbody>
</table>

- EVAR trial 30-day results – The Lancet
- EVAR 5-year results – The Lancet
- EVAR 10-year results – NEJM
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