ENDOVASCULAR ANEURYSM SEALING WITH PARALLEL GRAFTS – 62 CASES FROM SGVI

K Stenson, J De Bruin, P Holt, I Loftus, M Thompson
St George’s Vascular Institute, London
25 January 2017
Disclosure

Speaker name:  
........Kate Stenson.................................................................

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
ENDOVASCULAR TREATMENT OF JUXTARENAL ANEURYSMS

• Gold standard = custom-made F-EVAR.
• Good results.
• Technically challenging.
• High turn-down rates.
• Time to treatment.
• Off-the-shelf devices?
EVAR + PARALLEL GRAFTS

- Applicable to most morphologies.
- Good early results.
- No delay to treatment.
- Main concern = gutter type 1a endoleaks.
EVAS + PARALLEL GRAFTS
AIM

Assessment of our results using the endovascular sealing device, in combination with parallel grafts.
METHODS

• Prospective evaluation.
• Single centre study.
• Cases unsuitable for F-EVAR, B-EVAR or OSR.
• Median follow-up = 407 days (2 – 1258 days).
INDICATIONS FOR TREATMENT

- De novo, 81%
- EVAR revision, 14%
- EVAS revision, 2%
- OSR revision, 3%

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CHIMNEY PROCEDURES

Single 53%
N=33
LRA = 14
RRA = 17
SMA = 1 Other = 1

Double 34%
N=21
Both RA = 16
RA + SMA = 5

Triple 13%
N=8
Both RA + SMA = 8
## BASELINE CHARACTERISTICS

<table>
<thead>
<tr>
<th></th>
<th>All cases (n=62)</th>
<th>Single (n=33)</th>
<th>Double (n=21)</th>
<th>Triple (n=8)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (years)</strong></td>
<td>73.8 (58-87)</td>
<td>73.1</td>
<td>75.5</td>
<td>72.5</td>
</tr>
<tr>
<td><strong>Male</strong></td>
<td>77.4%</td>
<td>78.1%</td>
<td>76.2%</td>
<td>87.5%</td>
</tr>
<tr>
<td><strong>Creatinine (μmol/l)</strong></td>
<td>89 (33-208)</td>
<td>89</td>
<td>92</td>
<td>85</td>
</tr>
<tr>
<td><strong>ASA 3+</strong></td>
<td>96.7%</td>
<td>93.8%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>MI (History)</strong></td>
<td>24%</td>
<td>21.2%</td>
<td>33.3%</td>
<td>12.5%</td>
</tr>
<tr>
<td><strong>CVA (History)</strong></td>
<td>10%</td>
<td>9.1%</td>
<td>9.5%</td>
<td>12.5%</td>
</tr>
<tr>
<td><strong>PAD (History)</strong></td>
<td>6%</td>
<td>9.1%</td>
<td>0%</td>
<td>12.5%</td>
</tr>
<tr>
<td><strong>AAA Diameter (mm)</strong></td>
<td>66.5 (48-101)</td>
<td>64.5</td>
<td>69.1</td>
<td>68.3</td>
</tr>
</tbody>
</table>
## PROCEDURAL DETAILS

<table>
<thead>
<tr>
<th>Anaesthetic</th>
<th>GA = 59</th>
<th>RA = 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total anaesthetic time</strong></td>
<td>213.8 mins (150-360)</td>
<td></td>
</tr>
<tr>
<td><strong>Nellix stents used/case</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bilateral</td>
<td>61</td>
<td>Unilateral = 1</td>
</tr>
<tr>
<td><strong>Groin access</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percutaneous</td>
<td>110/123</td>
<td>Open = 13/123</td>
</tr>
<tr>
<td><strong>Chimney access</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L axillary art</td>
<td>56</td>
<td>L brachial art = 6</td>
</tr>
<tr>
<td><strong>Iliac stents</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R iliac</td>
<td>17</td>
<td>L iliac = 17</td>
</tr>
<tr>
<td>L iliac</td>
<td>17</td>
<td></td>
</tr>
</tbody>
</table>
### Sealing Zones

<table>
<thead>
<tr>
<th>Zone</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zone 8</td>
<td>72.6%</td>
</tr>
<tr>
<td>Zone 7</td>
<td>25.8%</td>
</tr>
<tr>
<td>Zone 6</td>
<td>1.6%</td>
</tr>
</tbody>
</table>

**Diagram:**
- Zone 8: SMA, RRA, LRA
- Zone 7: SMA, RRA, LRA
- Zone 6: SMA, RRA, LRA

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SURVIVAL

• Median survival = 593.5 days.

• 2 aneurysm-related deaths:
  • 1 within 30 days – sepsis 2° to mesenteric ischaemia.
  • 1 at 65 days – multiorgan failure.
FREEDOM FROM MORTALITY

**Freedom from all-cause mortality**

**Freedom from aneurysm-related mortality**
## Adverse Events

<table>
<thead>
<tr>
<th>Complications</th>
<th>Single</th>
<th>Double</th>
<th>Triple</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 1a endoleak</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Type 1b endoleak</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Type 2 endoleak</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Stroke</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>AKI</td>
<td>5</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Reintervention</td>
<td>7</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>
CONCLUSIONS

- Promising results in challenging case group.
- Addresses a therapeutic gap.
- Low rate of unresolved endoleaks.
- Low stroke rate.
- 97% chimney graft patency.
- Longer-term follow-up needed.
• International, multicentre registry.

• Open-label, single arm, no prospective screening.

• 200 patients in 8 centres with 5 year follow-up.
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