Fenestrated Anaconda™: Experience in 101 cases in the UK

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Disclosure

Speaker name: Robin Williams

I have the following potential conflicts of interest to report:

- [x] 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
10228 patients

42% of patients had anatomy that met the most conservative definition of device instructions for use

69% met the most liberal definition of device instructions for use.

5-year post-EVAR rate of AAA sac enlargement was 41%

Independent predictors of AAA sac enlargement

endoleak,
age ≥80 years,
aortic neck diameter ≥28 mm
aortic neck angle >60°
common iliac artery diameter >20 mm

Predictors of Abdominal Aortic Aneurysm Sac Enlargement After Endovascular Repair
Andres Schanzer, MD Roy K. Greenberg, MD et al
Circulation 2011 jun 21;123(24) :2848-55
Anaconda Fenestrated Range
Implanted Devices to Date

...by Country

1727 Cases
UK four centre study

• Four UK centres
  – Royal Derby Hospital, Derby
  – Imperial College/St Mary’s Hospital, London
  – Frimley Park Hospital, Surrey
  – Freeman Hospital, Newcastle

• All completed >20 cases
  • learning curves included, much like Globalstar
First 101 devices (prospective, consecutive series, unfunded)

Juxta renal, para-visceral, type IV TAAA
no previous EVAR - cuffs and re-lines excluded

2010-2014 Q1

- includes the first Anaconda fEVAR

data from the individual centres
Demographics

- 85% male
- median age 76 years (range 56-89 years)
- 52% described as “not fit for open repair”

<table>
<thead>
<tr>
<th>ASA grade</th>
<th>Number of patients (n=101)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>21</td>
</tr>
<tr>
<td>3</td>
<td>67</td>
</tr>
<tr>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Not stated</td>
<td>3</td>
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<table>
<thead>
<tr>
<th>Co-morbidity</th>
<th>Number (n=101)</th>
</tr>
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<tbody>
<tr>
<td>Diabetes</td>
<td>13 (13%)</td>
</tr>
<tr>
<td>Hypertension</td>
<td>72 (72%)</td>
</tr>
<tr>
<td>Ischaemic heart disease</td>
<td>53 (53%)</td>
</tr>
<tr>
<td>Congestive cardiac failure</td>
<td>5 (5%)</td>
</tr>
<tr>
<td>Chronic renal impairment</td>
<td>39 (39%)</td>
</tr>
<tr>
<td>Cerebrovascular disease</td>
<td>10 (10%)</td>
</tr>
<tr>
<td>Prior aortic surgery</td>
<td>2 (2%)</td>
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</tbody>
</table>
30 day outcomes

• Technical success: 97%
  – Aneurysm excluded (no type I or type III endoleak)
<table>
<thead>
<tr>
<th></th>
<th>Procedural</th>
<th>30 day</th>
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</thead>
<tbody>
<tr>
<td>Type I</td>
<td>11%</td>
<td>2%</td>
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<tr>
<td>Type II</td>
<td>15%</td>
<td>22%</td>
</tr>
<tr>
<td>Type III</td>
<td>4%</td>
<td>1%</td>
</tr>
<tr>
<td>Type IV</td>
<td>1%</td>
<td></td>
</tr>
<tr>
<td>U/C</td>
<td>1%</td>
<td></td>
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</tbody>
</table>
30 day outcomes

• Type I/III endoleaks

  – 9/11 type I endoleaks sealed spontaneously within 30 days
    • one type Ib treated with angioplasty
    • one considered for APTUS but had resolved by the time the patient attended for treatment (after 30 days)

  – 3/4 type III endoleaks sealed spontaneously within 30 days
    • left renal fenestration impossible to cannulate due to graft twist.
    • 2nd attempt failed
    • artery occluded with plug (after 30 days)
Target vessel patency — 30 day

- All vessel (incl valleys) 99.6%
- Stented vessels 247/251 = 98.4%
  - coeliac artery occluded pre-op
  - failed catheterisation of renal artery due to graft twist

- silent renal artery occlusion
- SMA delayed dissection with vessel occlusion
30 day outcomes

• **Mortality: 3%**
  
  – SMA dissection, failed endovascular salvage, patient died
  
  – Peri-operative perforated gastric ulcer and multi-organ failure
  
  – Stent graft thrombosis (infra-renal); ax-fem bypass
    → MOF

• **Secondary Interventions: 5%**
  
  – SMA stent for dissection
  
  – Retroperitoneal bleeding, NAD on catheter angio
  
  – Second attempt to cannulate renal artery
  
  – Redilatation of renal artery stent
  
  – SMA stent due to valley encroachment
1 yr – Mortality (all cause) – 9%

- 3 deaths within 30 days
- 6 further deaths within 1 yr
  - 85 days post fEVAR, 1 day post CFA thrombectomy
TVP (88 pts – 4 pts had US follow-up)

- 30 days 99.6%
- 1yr 99.1% (silent renal artery occlusion)
- Migration (>5mm) 0%
- Type I/III endoleak 0%
- Renal function (>25%) 0%

- Freedom from secondary interventions – 90%
Sac size
pre-op vs 1 yr

median change -11mm

decreased 67 76%
stable 20 23%
increased (>5mm) 1 1%

99%
• Highly effective to 1 yr
  – 30 day Mortality 3%
  – 1 yr TVP 99.1%
  – Limb occlusion 0%
• 3 year data
  • 2 centres only...
• 52/101 patients
3 years - all cause mortality – 18%
1 aneurysm related death
Median AAA sac size (mm)
3 yrs

93% Freedom from AAA expansion

<table>
<thead>
<tr>
<th>Procedure</th>
<th>6 months</th>
<th>12 months</th>
<th>18 months</th>
<th>24 months</th>
<th>30 months</th>
<th>36 months</th>
</tr>
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<tbody>
<tr>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>0.98</td>
</tr>
</tbody>
</table>
3 year Re-interventions
TVP

SMA stent fracture
  graft twist at primary implant
T2EL embolisation

1 TV lost
  SMA
Conclusion

In a wide range of anatomy
52% not considered for OR
Many unsuitable for other fEVAR devices

Safe to implant
3% mortality
99.2% TVP

Effective to 1 year (& 3 years)
Low mortality
AAAs continue to shrink (better than conventional EVAR)
Low TV loss
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