AAA with Short (8-15 mm) Necks are Best Treated by FEVAR

Matthew J. Eagleton, MD
Associate Professor
Cleveland Clinic Lerner College of Medicine-CWRU
November 18, 2015
VEITH 2015
New York, NY

Disclosures
• Bolton Medical – Consultant
• Cook Medical - Consultant

CAN WE PLACE EVAR IN AAA WITH SHORT NECKS?

YES – WE’VE ALREADY BEEN DOING IT

Long-term follow up DREAM

EVAR Trial Long-Term

DREAM Trial 2011
We’re Getting Worse With Better Devices

Why Failure?

- 5-year post EVAR rate of sac enlargement: 41%
- Independent predictors of sac enlargement
  - Endoleak
  - ≥ 80 years
  - Common iliac artery diameter > 20 mm
  - Compromised aortic neck

Clinical Outcomes for Short-Necked AAA

<table>
<thead>
<tr>
<th></th>
<th>&gt; 15</th>
<th>10 to 15</th>
<th>&lt; 10</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Type 1 Endoleak</td>
<td>12%</td>
<td>42%</td>
<td>53%</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Late Type 1 Endoleak</td>
<td>6%</td>
<td>15%</td>
<td>12%</td>
<td>.044</td>
</tr>
<tr>
<td>Early Reintervention</td>
<td>15%</td>
<td>38%</td>
<td>47%</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Late reintervention</td>
<td>5%</td>
<td>8%</td>
<td>12%</td>
<td>.321</td>
</tr>
</tbody>
</table>

NEWER TECHNOLOGY!
POTENTIAL IMPROVED OUTCOMES

Polymer Based Endografts Systems

Endologix Nellix
Trivascular Ovation

No Long-Term (or Mid-term) Follow Up

<table>
<thead>
<tr>
<th></th>
<th>Follow-Up (Mos.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zewes et al., Vascular 2015:</td>
<td>&quot;Early Follow Up&quot;</td>
</tr>
<tr>
<td>Carpenter et al. J Vasc Surg 2015:</td>
<td>1</td>
</tr>
<tr>
<td>Gosselli et al, J Cardiovasc Surg 2015:</td>
<td>12</td>
</tr>
<tr>
<td>Krievens et al., Eur J Vasc Endo Surg 2011:</td>
<td>16</td>
</tr>
<tr>
<td>Mehta et al. J Vasc surg 2014:</td>
<td>12</td>
</tr>
<tr>
<td>Ierardi et al. Vasc Intervent Radiol 2015</td>
<td>27</td>
</tr>
</tbody>
</table>
NOT ENOUGH INFORMATION TO ASSESS DURABILITY

WHEN FAILURE IS OBSERVED IN THESE PATIENTS, IS IT REALLY DEVICE FAILURE?

Or is it Poor Judgement? Designing the Repair on an Unstable Foundation

Build your Repair on a Solid Foundation

We Can Construct on Unstable Foundations!

But Results Can Be Disastrous

Extending the Proximal Landing Zone: More Solid Ground!!!!
Fenestrated Aortic Endografts is the Answer

• Don’t have to shorten the landing zone
• Can pick a longer, potentially healthier segment of aorta
• Data…

US FEVAR Trial: 5-Yr Outcomes

• Prospective, multicenter trial: 14 centers with 67 patients
• 100% technical success
• Perioperative mortality: 1.5%
• Mean hospital stay 3 (1-6) days

Renal Artery Patency

5-Year Renal Patency Rate: 97%

Freedom from Renal Deterioration

5-Year Freedom from Renal Deterioration: 91%

NOT Unique to Renal Manipulation
Renal Dysfunction: EVAR

Effect of Aggressive Iodinated Contrast-Dependent Imaging Follow Up
NOT NECESSARILY PROCEDURE RELATED
Reintervention Rates – US Trial

5-Year Freedom from Reintervention: 63%
5-Year Freedom from All-Cause Mortality: 91%
No Aneurysm Ruptures
No Conversions

Reintervention Rates – Single Center Series

185 Patient w/ juxtarenal AAA
3-Yr Freedom from reintervention: 89%
9-Year Freedom from Aneurysm-Related Mortality: 98%

Off-the-Shelf Suprarenal AAA Device

Twelve-year results of fenestrated endografts for juxtarenal and group IV thoracoabdominal aneurysms

- Single center, prospective study
- 2001-2013
- Standard imaging follow up
- 610 patients
- Juxtarenal and type IV TAAA

Available and Versatility

- Not available for sale.
- Suprarenal AAA Device
- Versatile
  - Up to 70% of patient suitable for an off-the-shelf configuration
    - Sobocinski et al., J Endovasc Ther 2012
    - Kitagawa et al., J Vasc Surg 2013
    - Gasper et al., J Vasc Surg 2013
    - Farber et al., J Vasc Surg 2014
  - With excellent clinical results
    - Kitagawa et al., J Vasc Surg 2013
    - Farber et al., J Vasc Surg 2014
    - Reilly et al, J Vasc Surg 2012
But We Can Fix those that Fail?

• Mortality for Open Repair:
  – Juxtarenal AAA: 2.8%, or...
  – Explantation of EVAR: 17%

• Mortality for Endovascular Repair:
  – Short-Neck AAA (FEVAR): 1.2%, or...
  – Conversion of EVAR to FEVAR: 3.8%

**CAN WE TREAT SHORT-NECK AAA WITH EVAR?**

**YES!**

**SHOULD WE?**

**WE SHOULD REPAIR SHORT-NECKED AAA CORRECTLY...**

THE FIRST TIME, and don’t skimp on the neck!

**February 12 – 13, 2016**

The Biltmore Hotel
Coral Gables, Florida