Will EVAS Replace EVAR?

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Disclosures

• Proctor and Speaker Bureau for Endologix
Stent design: Paradigm Shift

• Generations of EVAR solutions subtle design change

• Technological innovation to produce endografts with:
  – Reduced incidence of graft failure and endoleak
  – Improve long term outcomes
  – Expand indications for EVAR
Stent design: *Paradigm Shift*

- Generations of EVAR solutions subtle design change
- Technological innovation to produce endografts with:
  - Reduced incidence of graft failure and endoleak
  - Improve long term outcomes
  - Expand indications for EVAR
Features to Change EVAR Practice

- Broad applicability
- Technical simplicity
- Low perioperative morbidity/mortality
- Ability to identify problems in surveillance
- Long term durability
Nellix EVAS System

- New generation therapy
- Designed to overcome limitations of EVAR
EVAS – Expanding Patient Applicability

Karthikesalingam et al EJVES 2013

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EVAS For Infrarenal Aneurysms

- Simple technical solution
- Eradicates type 2/3 endoleaks
- Early published outcomes good
- But:
  - Long term data on durability
  - Identify novel complications
  - Define limitations
  - Define surveillance and reintervention protocols
Where EVAS Might Replace EVAR

• Selected patients with:
  – Ruptured AAA
  – Challenging neck and iliac anatomy
  – Juxta-renal and supra-renal aneurysms
EVAS: Ruptured AAA

- Low profile
- Rapid haemostasis
- Technically simple
- No gate cannulation
- BUT:
  - Possible aortic trauma
EVAS: Challenging rAAA
EVAS: Short Iliac Arteries
EVAS: Challenging Neck Anatomy
Nellix: EVAS and Parallel Grafts
Nellix: EVAS and Parallel Grafts
EVAS Registry: Cohort Descriptions

**Cohort 1**
- 69%
- N=190
- Neck Length ≥ 10mm
- Infrarenal Angle ≤ 60°

**Cohort 2**
- 15%
- N=41
- Neck Length 5 - 10mm
- Infrarenal Angle 61 - 90°

**Cohort 3**
- 11%
- N=31
- Neck Length < 5mm
- Infrarenal Angle > 90°
- Juxtarenal / Pararenal

**Cohort 4**
- 5%
- N=12
- Ruptured AAA EVAR revisions

16 Chimney Procedures

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## Outcomes

<table>
<thead>
<tr>
<th>MAEs</th>
<th>≤30 days</th>
<th>&gt;30 days</th>
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<tbody>
<tr>
<td></td>
<td>N=268</td>
<td>N=263</td>
</tr>
<tr>
<td>All Cause Death</td>
<td>3 (1.1%)</td>
<td>7 (2.7%)</td>
</tr>
<tr>
<td>Peri-operative mortality</td>
<td>3 (1.1%)</td>
<td>-</td>
</tr>
<tr>
<td>Aneurysm related mortality</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Renal Failure</td>
<td>0</td>
<td>1 (0.4%)</td>
</tr>
<tr>
<td>Myocardial Infarction</td>
<td>2 (0.7%)</td>
<td>1 (0.4%)</td>
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<tr>
<td>Bowel Ischemia</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Respiratory Failure</td>
<td>3 (1.1%)</td>
<td>1 (0.4%)</td>
</tr>
<tr>
<td>Stroke</td>
<td>1 (0.4%)</td>
<td>0</td>
</tr>
<tr>
<td>Blood loss &gt;1000 mL</td>
<td>2 (0.7%)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Patients with one or more MAE</td>
<td>9 (3.4%)</td>
<td>9 (3.4%)</td>
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</tbody>
</table>
# Endoleaks/Reinterventions

<table>
<thead>
<tr>
<th></th>
<th>Total Patients</th>
<th>Endoleaks</th>
<th>Occlusion</th>
<th>Conversion</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Early ≤30d</strong></td>
<td>9 (3.4%)</td>
<td>4 (1.5%)</td>
<td>3 (1.1%)</td>
<td>2 (0.7%)</td>
<td>1 (0.4%)</td>
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<tr>
<td>(n=268)</td>
<td></td>
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<tr>
<td><strong>Late &gt;30d</strong></td>
<td>10 (3.8%)</td>
<td>5 (1.9%)</td>
<td>0</td>
<td>4 (1.5%)</td>
<td>1 (0.4%)</td>
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<tr>
<td>(n=263)</td>
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Conclusions

• EVAS may replace EVAR in some clinical areas
• EVAS increases proportion of patients suitable for intervention
• They are technically very different to EVAR
• Require robust data on durability