Nexus aortic arch stentgraft: Mid-term results  M. Lachat
Disclosure

- Mario LACHAT - Clinical Proctors NEXUS/Endospan
Module 1

Fixation sites

Module 1
Sealing sites
+ Supraaortic Fenestration
Delivery system

- 20 Fr
- Pre-curved, Pre-shaped
Implantation technique

Trough & Trough GW
20 Fr sheath
Implantation technique

Trough & Trough GW
20 Fr sheath
ARCH Module - Off-the-shelf configuration
Challenging Zone 0 – CMD ascending module

CC Patient from N. Mangialardi
Implantation sites (9)

- Montreal, Canada (Cherrie ZA)
- Hradec Kralove, Czech Republic (Raupach J)
- Zurich, Switzerland (Lachat M)
- Rome, Italy (Mangialardi N)
- Modena, Italy (Coppi G)
- Toronto, Canada (Lindsay T)
- San Donato, Italy (Nano G)
- Chennai, India (Goppi G)
- Padova (D’Onofrio A)

- **NEXUS FIM study: 8 patients (3 study centers)**
- **NEXUS Registry: 19 compassionate patients (open access)**
Patients (27)

• Male 22 (80%)
• Age 73 years (52-85, SD:9)

Aortic pathology
• Aneurysm 15 (56%)
• Dissection 12 (44 %, all chronic)
  – Type A 8 (post ascending repair)
  – Type B 3
  – Non-A-Non-B 1
• Max Aneurysm Diameter: 62 mm (46-105; SD:13)
• All patients considered high-risk or unfit for open repair!
  – Heart teams and aortic boards
  – 19 compassionate (70%)
  – 21% predictive 30-day mortality rate
Management of SA truncs

- SA bypass (26)
- Rerouting Z0 (1)
- Parallel grafts
  - Periscopes (10)
  - Chimney (1)
Results

<table>
<thead>
<tr>
<th>n</th>
<th>30d mortality</th>
<th>30d CVA/SCI</th>
<th>EL</th>
</tr>
</thead>
<tbody>
<tr>
<td>27 (Z0)</td>
<td>15%</td>
<td>9%</td>
<td>13%</td>
</tr>
</tbody>
</table>

Aneurysms sac behavior @ mean FUP 12 months (SD9; 1-29)
Mean follow-up 12 months (1-29; SD9)
Reinterventions during FUP (5)

- **EL Ib**
  - Coilembolization of periscope gutter endoleak
    - 4 months postoperative

- **LV Rupture**
  - ASD occluder
    - Primary hospitalisation
  - Packing/Embolisation of LV rupture
    - 9 months postoperative

- **LSA Periscope stenosis**
  - Stenting
    - 3 months postoperative
Reinterventions during FUP (5)

• Persistent FL perfusion + retrograde extension in ascending
  – Ascending replacement
    • Distal anastomosis E/E to arch module
    • 4 months postoperative

• Persistent FL perfusion + aneurysm progression
  – Distal stent-graft extension
# Aortic Arch Devices: Results @ 30days

<table>
<thead>
<tr>
<th>Fabric</th>
<th>n</th>
<th>30d mortality</th>
<th>CVA/SCI</th>
<th>EL</th>
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<tr>
<td><strong>Gore</strong></td>
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<tr>
<td>Zone 0-1</td>
<td>7</td>
<td>0</td>
<td>29%</td>
<td>NA</td>
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<tr>
<td>Zone 2</td>
<td>23</td>
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<td>4%</td>
<td>22%</td>
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<tr>
<td><strong>Medtronic</strong></td>
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<tr>
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<td>33%</td>
<td>0</td>
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<tr>
<td><strong>Bolton</strong></td>
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<tr>
<td>Single Branch</td>
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<td>25%</td>
<td>13%</td>
<td>17%</td>
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<tr>
<td>Double Branch</td>
<td>26</td>
<td>12%</td>
<td>4%</td>
<td>22%</td>
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<tr>
<td><strong>Cook</strong></td>
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<tr>
<td>Arch</td>
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<td>5%</td>
<td>16%</td>
<td>11%</td>
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<tr>
<td><strong>Endopsan</strong></td>
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<tr>
<td>Zone 0</td>
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<td>15%</td>
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<td>13%</td>
</tr>
<tr>
<td>Single Branch</td>
<td>22</td>
<td>10%</td>
<td>5%</td>
<td>16%</td>
</tr>
</tbody>
</table>
CONCLUSIONS

Nexus

- Good technical and clinical outcomes
  - Early and mid-term
  - Arch aneurysm and dissection
  - Supra-aortic fenestration more challenging
    - Stroke issue with original design/system
    - Pre-canulated device in pipeline...
CONCLUSIONS

Advantages

- Fits most arch anatomies
  - Off-the shelf device
  - Ascending module customizable
- “Low”-profile delivery system
  - 20 Fr for up to 45mm stent-graft
CONCLUSIONS

The dissected Arch

- Close follow-up mandatory
- Strategies to rule out residual FL perfusion required!
  - Endovascular
    - Distal/proximal SG extension(s)
    - Endovascular device/tool
  - Open/hybrid
Thank You!

Leipzig
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M. Lachat