Challenges for EVAR

- Extensive atherosclerosis
  - Floating plaques
  - Arch and/or branches

Challenges for EVAR

- Access issues/Navigation issues
• Disease extension
• Tortuosity
• Branch vessels disease
  – dissection
• Landing zones

AAA - Hybrid repair

<table>
<thead>
<tr>
<th>Laparotomy</th>
<th>Laparotomy</th>
<th>Laparotomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 vessels debranching Standard device</td>
<td>3 vessels debranching Standard device</td>
<td>4 vessels debranching Standard device</td>
</tr>
</tbody>
</table>

Open debranching and endovascular aneurysm exclusion
2006 to 2014 - 54 papers - 2153 patients

30d mortality: 10.3%
Neuro complications (stroke and paraplegia): 17.4%
Renal function impairment: 9.9%

Arch
31 papers 729 patients
30d mortality: 6.8%
Neuro comp.: 4%
RFI: 5%

Visceral
23 papers 761 patients
30d mortality: 15.5%
Neuro comp.: 3.9%
RFI: 14%

Challenges in Aortic Branches Surgery

Anatomical remodelling
Difficult access
Scar tissue

NEW DEVELOPMENTS

• Staged hybrid open/endovascular debranching & EVAR

Rationate (≥2 procedures)

• Reduce complexity of
  – Open surgery (HR)
  – Arch and/or visceral aorta EVAR

• Reduce amount of contrast (EVAR)

• «Reduces risk of paraplegia»
Experience @ UHZ

- June 2008- August 2014
- **48 patients** (12 (25%) female)
  - mean age 66.92 (45-86; SD: 8.52)
- Total Number of vessels 186 (3.88 vessels per patients)
  - **Db vessels**: 112 (mean 2.33 per patient (1-5; SD:1))
  - **CPG vessels**: 74 (mean 1.54 per patient; r:1-4; SD 1)
Early results

30-day mortality: 2 (4.2%)
- Cardiac failure
- MOF

30-day morbidity: 8 (16.7%)
- Hamatothorax
- Stroke with paraplegia (2%)
- Eventration
- Respiratory failure
- Mesenterial/colon ischemia (x 2)
- Renal haematoma (x 2)

FUP Results (mean 23.08 (0-59; SD 15) months

Conclusions

- Hybrid open/endovascular repair downgrades technical and biological risks of both open and endovascular surgery
  — Cumulative 30-day mortality of 4.2%

- Promising initial experience but more data and longer follow-up is mandatory

Treatment Options

<table>
<thead>
<tr>
<th>Risk</th>
<th>Low</th>
<th>Intermediate</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arch/TAAA</td>
<td>COS</td>
<td>Hybrid*</td>
<td>EVAR*</td>
</tr>
</tbody>
</table>

*: FEVAR/BEVAR PG-EVAR

Thank You!