A Simplified Technique For Transfemoral Access To Antegrade Branches in Complex Aortic Repair

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Disclosures

- Research-grants, travelling, proctoring speaking-fees, IP, royalties with Cook.
- Consultant with Philips
- Consulting, speaking-fees with Getinge
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Zenith® T-Branch: Off the Shelf Thoracoabdominal Endograft
Right or Left?

Right brachial access is safe for branched endovascular aneurysm repair in complex aortic disease

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ABSTRACT

Background: The risk of perioperative cerebrovascular events in endovascular repair of thoracic and thoracoabdominal aneurysms is reported from 2% to 15%. The unavoidable use of an upper extremity access during branched endovascular aneurysm repair (b-EVAR) may play a role in embolic brain injuries. For this reason, some advocate the use of a left-sided upper access to avoid crossing the origin of supra-aortic vessels. However, the assumption that right brachial access has a higher risk for stroke during b-EVAR has not been confirmed in the literature.

Conclusions: The postoperative stroke rate in b-EVAR with the use of a right brachial access in our experience was in line with the literature for treatment of thoracic and thoracoabdominal aortic aneurysms. We conclude that the right brachial access with the use of a stabilizing through-and-through wire is a safe approach during b-EVAR. (J Vasc Surg 2017;66:360-6.)
Unavoidable Upper Extremity Access?

- Occlusion/stenosis
- Thrombotic/shaggy
- AV-fistula
- LIMA Bypass
- Antegrade branches after arch-repair
Upper Extremity Access Complications

- Hematoma
- Nerve damage
- Plexus damage
- Stroke
- Rupture
- Ischemia
- Prolonged operating time
- Radiation exposure
How About......

From Oderich: EVAR-Textbook
Case 4

Makaloski et al. 2018; J Endovasc Ther 25:566-70
Steerable Sheath in TAAA

Case series n=4, 8 target vessels

Technical Success 8/8

Procedural time unchanged

Currently n=>50

Preferred sheaths:
- Fustar 10F 55cm
- Flexor 12F 80cm

Makaloski et al. 2018; J Endovasc Ther 25:566-70
Stabilisation Technique

- Outside graft through-and-through wire
- Inside graft contralateral through-and-through wire
- Inside graft ipsilateral through-and-through wire/suture
Through-and-Through Suture Technique to Stabilize a Sheath in Branched Endovascular Aortic Repair

Giuseppe Panuccio, MD, Fiona Rohlfss, MD, Vladimir Makaloski, MD, Ahmed Elesha, MD, Nikolaos Tsilimparis, MD, PhD, and Tilo Kölbel, MD, PhD

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Panuccio et al. 2019; J Endovasc Ther: epub
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Panuccio et al. 2019; J Endovasc Ther: epub
T&T Suture/Wire Technique

Courtesy of Gustavo Oderich
<table>
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<tr>
<th></th>
<th>Transfemoral Access n=60 (63% male; age 71y)</th>
<th>UEA Historical Control Group n=92 (67% male; age 73y)</th>
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</thead>
<tbody>
<tr>
<td>Years</td>
<td>2018-2019</td>
<td>2016-2018</td>
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<tr>
<td>Antegrade branches (n, range)</td>
<td>4 (1-7)</td>
<td>4 (4-4)</td>
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<tr>
<td>T-branch/CMD</td>
<td>41/19*</td>
<td>75/17</td>
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<tr>
<td>+ TEVAR/ZBIS</td>
<td>7/6</td>
<td>6/6</td>
</tr>
<tr>
<td>Technical success (%cases, %TV)</td>
<td>100/99*</td>
<td>95/92</td>
</tr>
<tr>
<td>DAP (Gy/cm²)</td>
<td>221 (138-405)</td>
<td>254 (148-425)</td>
</tr>
<tr>
<td>Contrast volume (ml, IQR)</td>
<td>141 (123-165)</td>
<td>130 (101-157)</td>
</tr>
<tr>
<td>Operating time (min, IQR)</td>
<td>300 (240-356)*</td>
<td>364 (290-475)</td>
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<tr>
<td>Stroke (n, %)</td>
<td>0*</td>
<td>(3) 2.3</td>
</tr>
<tr>
<td>Femoral access complication</td>
<td>(2) 3.3%</td>
<td>12 (13)%</td>
</tr>
<tr>
<td>UEA complication</td>
<td>0*</td>
<td>2.3%</td>
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Endovascular repair of TAAA has matured over 15 years and can be considered gold-standard in TAAA-repair.

Transfemoral access with T&T suture/wire technique offers superior stability, faster procedure-time and lower stroke rate compared to UEA.

Upper extremity access for antegrade branches in TAAA repair should probably be avoided whenever possible.
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