FEVAR for chronic type B dissection. Radiofrequency wire simplifies procedure planning and improves success rate

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Radiofrequency Wire

- Radiofrequency energy to tip of 0.035 in wire
- Designed to cross occluded vessels


Radiofrequency thermal wire is a useful adjunct to treat chronic central venous occlusions. Iafrati, JVS 2012

Radiofrequency Wire for the Recanalization of Central Vein Occlusions that Have Failed Conventional Endovascular Techniques. Guimaraes, JVIR 2012

Percutaneous Recanalization of Iliac Artery Occlusions by Radiofrequency Perforation: Initial Experience. Annamalai JVIR 2016
Radiofrequency In Situ Fenestration for Aortic Arch Vessels During Thoracic Endovascular Repair

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Challenges of FEVAR in Chronic Type B Dissection

- Small true lumen
  - Graft and catheter manipulation difficult

- Target vessel originates from false lumen
  - Difficultly in finding and catheterization the dissection flap fenestration
Case 1

- 73 yr old male
- Chronic type b dissection with aneurysmal degeneration (6.5cm) post Type A repair
- L renal and celiac from false lumen
- Three-stage repair
  - Carotid Carotid Subclavian bypass
  - Arch graft (NEXUS)
  - COOK Fenestrated EVAR (2008)
TEVAR and Arch Graft
False Lumen
Case 2

- 70 yr old female
- Chronic type b dissection with aneurysmal degeneration (7cm)
- R renal from false lumen
- Left renal, SMA and celiac from true lumen
Stage repair

- **1st Stage:** Carotid-carotid-subclavian bypass
- **2nd stage:** Arch graft (Nexus) and TEVAR to distal thoracic aorta
- **3rd Stage:** F-EVAR
Predilatation of flap fenestration
Summary

- Radiofrequency wire is a highly versatile and easy to use tool for the creation of ‘neo-fenestration’ in Fenestrated EVAR of chronic type B dissection.

- It makes procedure planning easy and improves procedural success rate.
# F-EVAR of Post Dissection Aneurysmal Aorta

<table>
<thead>
<tr>
<th></th>
<th>Verhoeven Nurnberg, Germany 2012</th>
<th>Kitagawa GCF, USA 2013</th>
<th>Haulon Lille, France 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>N. of patients</td>
<td>6</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Median age</td>
<td>62 (44-71)</td>
<td>58 (33-71)</td>
<td>61 (31-77)</td>
</tr>
<tr>
<td>Maximal diameter (mm - median, range)</td>
<td>69 (64-73)</td>
<td>64 (43-97)</td>
<td>67 (56-79)</td>
</tr>
<tr>
<td>Connective tissue disease</td>
<td>NA</td>
<td>6 (40%)</td>
<td>3 (20%)</td>
</tr>
<tr>
<td>Arch involvement</td>
<td>0</td>
<td>1 (7%)</td>
<td>6 (40%)</td>
</tr>
<tr>
<td>Previous aortic surgery (including T-EVAR)</td>
<td>NA</td>
<td>12 (80%)</td>
<td>11 (73%)</td>
</tr>
<tr>
<td>Median nb of fenestrations/branches</td>
<td>3 (0-4)/1 (0-4)</td>
<td>NA</td>
<td>4 (0-4)/2 (0-2)</td>
</tr>
<tr>
<td>Median time elapsed (in months) between acute onset and complex EVAR (median, range)</td>
<td>32 (10-123)</td>
<td>124 (24-408)</td>
<td>48 (12-260)</td>
</tr>
<tr>
<td>Staged procedure (TM only)</td>
<td>NA</td>
<td>78%</td>
<td>45%</td>
</tr>
<tr>
<td>Technical success</td>
<td>100%</td>
<td>NA</td>
<td>100%</td>
</tr>
<tr>
<td>30d-mortality</td>
<td>0</td>
<td>0</td>
<td>1 (7%)</td>
</tr>
<tr>
<td>Reintervention</td>
<td>NA</td>
<td>8 (53%)</td>
<td>2 (13%)</td>
</tr>
<tr>
<td>Mean FU (months)</td>
<td>9 (3-15)</td>
<td>20 (1-62)</td>
<td>12 (1-36)</td>
</tr>
</tbody>
</table>

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# Early Experience of Endovascular Repair of Post-dissection Aneurysms Involving the Thoraco-abdominal Aorta and the Arch

R. Spear a, J. Sobocinski b, N. Settembre b, M.R. Tyrrell c, S. Malikov d, B. Maurel e, S. Haulon a e

<table>
<thead>
<tr>
<th></th>
<th>Major adverse events, n (%)</th>
<th>In hospital mortality, n (%)</th>
<th>Spinal cord ischemia, n (%)</th>
<th>Secondary procedures, n (%)</th>
<th>Type 1 endoleak, n (%)</th>
<th>Type 2 endoleak, n (%)</th>
<th>Type 3 endoleak, n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAAA (n = 16)</td>
<td>2 (12.5)</td>
<td>1 (6)a</td>
<td>1 (6)a</td>
<td>0 (0)</td>
<td>1 (6)</td>
<td>6 (37.5)</td>
<td>1 (6)</td>
</tr>
</tbody>
</table>