Planning for a durable future: Factors to consider when treating TEVAR patients

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### Recommendation for (thoracic) endovascular aortic repair ((T)EVAR)

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Class(^a)</th>
<th>Level(^b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is recommended that the indication for TEVAR or EVAR be decided on an individual basis, according to anatomy, pathology, comorbidity and anticipated durability, of any repair, using a multidisciplinary approach.</td>
<td>I</td>
<td>C</td>
</tr>
<tr>
<td>A sufficient proximal and distal landing zone of at least 2 cm is recommended for the safe deployment and durable fixation of TEVAR.</td>
<td>I</td>
<td>C</td>
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<tr>
<td>to select a stent-graft with a diameter exceeding the diameter of the landing zones by at least 10–15% of the reference aorta.</td>
<td>I</td>
<td>C</td>
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<tr>
<td>During stent graft placement, invasive blood pressure monitoring and control (either pharmacologically or by rapid pacing) is recommended.</td>
<td>I</td>
<td>C</td>
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<tr>
<td>Preventive cerebrospinal fluid (CSF) drainage should be considered in high-risk patients.</td>
<td>IIa</td>
<td>C</td>
</tr>
</tbody>
</table>

\(^a\)Class of recommendation.  
\(^b\)Level of evidence.


Editor’s Choice — Management of Descending Thoracic Aorta Diseases

Clinical Practice Guidelines of the European Society for Vascular Surgery (ESVS)


<table>
<thead>
<tr>
<th>Recommendation 16</th>
<th>Class</th>
<th>Level of evidence</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>In patients with complicated acute type B aortic dissection, endovascular repair with thoracic endografting should be the first line intervention</td>
<td>I</td>
<td>C</td>
<td>6,85–89,92–94,96–99, 103,109</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recommendation 17</th>
<th>Class</th>
<th>Level of evidence</th>
<th>References</th>
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</thead>
<tbody>
<tr>
<td>In complicated acute type B aortic dissection, endovascular fenestration should be considered to treat malperfusion</td>
<td>IIa</td>
<td>C</td>
<td>73,100–102</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recommendation 18</th>
<th>Class</th>
<th>Level of evidence</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>To prevent aortic complications in uncomplicated acute type B aortic dissection, early thoracic endografting may be considered selectively</td>
<td>IIb</td>
<td>B</td>
<td>104</td>
</tr>
</tbody>
</table>
INDICATIONS FOR USE

The RELAY® stent-graft is intended for the treatment of thoracic aortic pathologies such as aneurysms, pseudoaneurysms, dissections, penetrating ulcers and intramural hematoma, in adult patients (as defined by local statutes). Anatomical/Sizing features specified in Tables 1, 2 and 3 should be observed.

2. Indications for Use

The Valiant thoracic stent graft with the Captivia delivery system is indicated for the endovascular repair of all lesions of the descending thoracic aorta (DTA) in patients having the appropriate anatomy including:

- Iliac or femoral artery access vessel morphology that is compatible with vascular access techniques, devices, or accessories;
- Nonaneurysmal aortic diameter in the range of 18 mm to 42 mm (fusiform and saccular aneurysms/penetrating ulcers), or 18 mm to 44 mm (blunt traumatic aortic injuries), or 20 mm to 44 mm (dissections); and
- Nonaneurysmal aortic proximal and distal neck lengths ≥20 mm (fusiform and saccular aneurysms/penetrating ulcers), landing zone ≥20 mm proximal to the primary entry tear (blunt traumatic aortic injuries, dissections). The proximal extent of the landing zone must not be dissected.
Male 65 yrs, acute thoraco-abdominal pain with spontaneous regression, stable (other hospital)
Left caroid-subclavian bypass and Bolton 343415
(Other hospital)
Two months after left caroid-subclavian bypass and Bolton 343415
(other hospital)
15 mm minimal requirement

optimal compliance
At our Hospital ascending aorta and aortic arch replacement with 28 dacron graft anastomosed directly to the endoprosthesis (free flow cutted)
Go proximal !!!

..but always keep in mind which patient are you treating !!!!
87 yrs aortic arch aneurysm
Left carotid and anonymus trunk debranching. 404020 C-TAG and left subclavian snorkel

Snorkel is outside company IFU
Left carotid and anonymus trunk debranching. 404020 C-TAG and left subclavian snorkel
Debranching of epiaortic vessels and aortic banding
Reinforcement of the aorta

No type Ia endoleak

Long, linear, cylindrical neck: mean length of the proximal landing zone is $3 \pm 0.8$ cm
No Bird Beak

Main trunk of the debranching on proximal part of ascending aorta: deployment of the ESG in a straight vessel.
Aortic Arch reinforcement is an ease trick for a **safe** landing zone

Avoid the “cul de sac” of the cutted epiaortic vessels.
PROBLEMS?

5 YEARS FOLLOW-UP OF AN ENDOFIT THORACIC STENT
5 YEARS FOLLOW-UP OF AN ENDOFIT THORACIC STENT
CTAG 4040150 IN - STENT GRAFT
Hybrid Aortic Arch Repair with Reinforcement of the Aorta after One Year
Hybrid Aortic Arch Repair with Reinforcement of the Aorta after Three Years
Hybrid Aortic Arch Repair with Reinforcement of the Aorta after Three Years
Factors For Durable TEVAR

AORTIC PATHOLOGY
- Aneurysm
- Dissection/IMH
- Trauma

LANDING ZONE (proximal & distal)
- Length of "healthy" aorta
- Landing site (ascending, arch, descending)
- Bird beak

PATIENT CHARACTERISTICS
- Age
- Comorbidities
- Frailty

ENDOPROSTHESIS CHARACTERISTICS
- Radial force
- Conformability
- Free flow/bare spring
Also when we are doing what we love we have to consider all different factors for durable fun.