Highlights of Clinical Practice Guidelines for Endovascular Repair of Complex AAAs Involving the Paravisceral Aorta

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Disclosure

• none

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• 1.5.5. Do not offer complex* EVAR to people with an unruptured AAA if open surgical repair is a suitable option, except as part of a randomized controlled trial comparing complex EVAR with open surgical repair

• 1.5.6. Do not offer complex EVAR* to people with an unruptured AAA if open surgical repair is unsuitable because of their anesthetic and medical condition

— *standard endograft outside IFU, PMEG, CMD, parallel stents

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*Reporting Standards

Reporting Standards
**Reporting Standards**

- Aneurysms involving the renal visceral segment, thoracoabdominal aneurysms, suprarenal aneurysms, pararenal aneurysms, juxtarenal aneurysms

- Aneurysms involving ascending aorta, aortic arch, isolated thoracic aortic aneurysms, common and internal iliac artery aneurysms

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**Scope of SVS Clinical Practice Guidelines**

- **Included**
  - Aneurysms involving the renal visceral segment, thoracoabdominal aneurysms, suprarenal aneurysms, pararenal aneurysms, juxtarenal aneurysms

- **Not Included**
  - Aneurysms involving ascending aorta, aortic arch, isolated thoracic aortic aneurysms, common and internal iliac artery aneurysms

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**Methodology**

- Database search resulted in 332 potentially eligible papers
- Recommendations are based on 19 included studies
- Almost all studies were uncontrolled surgical case series
- Quality of evidence was low (C) across most outcomes because of imprecision, small number of patients, most papers were noncomparative and observational
- Two systematic reviews

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**GRADE (Grading of Recommendations, Assessment, Development, Evaluation)**

<table>
<thead>
<tr>
<th>Strength of Recommendation</th>
<th>Level of Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – Strong <em>“We recommend”</em></td>
<td>A – High</td>
</tr>
<tr>
<td>2 – Weak <em>“We suggest”</em></td>
<td>B – Moderate</td>
</tr>
<tr>
<td>C – Low</td>
<td>C – Low</td>
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</table>

*Good Practice Statements*

Suggested recommendations advising about performing certain actions considered by surgeons to be essential for patient care and supported only by indirect evidence.
We suggest repair of complex aortic aneurysms in patients with reasonable life expectancy when a juxtarenal or pararenal aneurysm reaches 55 mm, or a thoracoabdominal aneurysm reaches 60 mm in largest diameter.

**Patient Selection**

**Recommendations**

**Devices**

We recommend that the use of physician modified endografts should be restricted to use under an investigator device exemption.

We recommend that the use of in situ fenestration techniques in the juxtarenal aorta should be limited to bail-out situations with inadvertent vital branch coverage.

We suggest that parallel stents are an alternative endovascular strategy in urgent/emergent complex EVAR cases and serve as an adjunct to inadvertent side-branch coverage during all cases.

**Procedures**

We suggest that parallel stents are an alternative endovascular strategy in urgent/emergent complex EVAR cases and serve as an adjunct to inadvertent side-branch coverage during all cases.

**Fenestrated & Branched Endovascular Repair**

Use of general anesthesia is suggested for patients undergoing FEVAR or Branched endografting.

However caution should be exercised in patients with significant cardiovascular morbidities due to the high risk of periprocedural morbidity and mortality.
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We recommend that bridging stent-grafts for complex EVAR should be covered stent-grafts, typically balloon-expandable for fenestrated strategies and self-expanding for branched or chimney strategies with tortuous anatomy.

**Fenestrated & Branched Endovascular Repair**

**Recommendations**

**Specific Clinical Situations**

- Ruptured Aneurysms
- Patients with connective tissue disorders
- Chronic dissections

**Other Recommendations**

- Fixed imaging systems
- Staging of procedures
- Spinal cord protection strategies

**Other Recommendations**

**Elective EVAR to be performed in hospitals**

- with documented mortality and conversion rate to open surgical repair of \(\leq 2\%\), and
- that perform at least 10 EVAR cases/year

**Elective Open AAA to be performed in hospitals**

- with a mortality rate \(< 5\%\), and
- that perform at least 10 open aortic operations of any type/year

**Timeline**

- Reporting Standards
  - Winter/Spring 2020
- Clinical Practice Guidelines
  - Summer/Fall 2020

**Case Number Requirements**

Elective EVAR to be performed in hospitals

- with documented mortality and conversion rate to open surgical repair of \(\leq 2\%\), and
- that perform at least 10 EVAR cases/year

Elective Open AAA to be performed in hospitals

- with a mortality rate \(< 5\%\), and
- that perform at least 10 open aortic operations of any type/year

Endovascular repair of complex aneurysms to be performed in hospitals

- that perform at least 5 – 10 cases per year