Endovascular Treatment of Occlusive Aortic Disease With Abdominal Stent Grafts

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University of Colorado
Disclosure

Speaker name: Ehrin J. Armstrong MD

I have the following potential conflicts of interest to report:

☑ Consulting: Abbott Vascular, Boston Scientific, Cardiovascular Systems, Medtronic, Philips

☐ Employment in industry

☐ Stockholder of a healthcare company

☐ Owner of a healthcare company

☐ Other(s)

☐ I do not have any potential conflict of interest
Aortoiliac Occlusive Disease

• PAD involving only the iliac arteries can often be treated with standard endovascular techniques.
  Balloon expandable, balloon expandable covered, or self-expanding stents.

• Involvement of aorta may necessitate use of endografts.
  Coverage of both aorta and iliac occlusive disease.

• Potential benefit of preserving native bifurcation.
  Flow disturbance with kissing iliac stents
Case Example – Isolated Aortic Disease

• 62M with PMH of atrial fibrillation, on chronic Coumadin with good compliance.

• Presented with subacute onset of bilateral painful, distal toe necrosis.

• Initial evaluation with TTE and TEE did not reveal LAA thrombus, LV thrombus, or aortic arch atheroma.
Abdominal CTA
Procedural Plan

• EVAR with Afx unibody stent graft.

• Right CFA main body access.

• Snare wire in thoracic aorta, to avoid manipulation of distal aortic thrombus.

• Post-dilation of proximal graft edge, avoiding significant angioplasty of distal aorta.
Case Example – Extensive Disease
Multicenter, retrospective study of 91 patients with symptomatic AIOD.

– 74% of patients with lifestyle-limiting claudication.

Mean follow up of 22 months.

Maldonado et al, EJVES 2016
## Baseline Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>68 ±10</td>
</tr>
<tr>
<td>Male Gender (n)</td>
<td>62%</td>
</tr>
<tr>
<td>ASA Class</td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>16%</td>
</tr>
<tr>
<td>III</td>
<td>57%</td>
</tr>
<tr>
<td>IV</td>
<td>21%</td>
</tr>
<tr>
<td>Concomitant AAA ≥3.5cm</td>
<td>1.7%</td>
</tr>
<tr>
<td>Ambulatory Status</td>
<td></td>
</tr>
<tr>
<td>Ambulatory</td>
<td>93%</td>
</tr>
<tr>
<td>Amb w/ assistance</td>
<td>5%</td>
</tr>
<tr>
<td>Wheelchair</td>
<td>2%</td>
</tr>
</tbody>
</table>

Maldonado et al, EJVES 2016
Maldonado et al, EJVES 2016

Courtesy of Zachary Arthurs, MD
### Procedural Complications

<table>
<thead>
<tr>
<th>Complication</th>
<th>N=91</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>Groin Infection</td>
<td>6</td>
<td>7%</td>
</tr>
<tr>
<td>Respiratory Failure</td>
<td>4</td>
<td>4%</td>
</tr>
<tr>
<td>Groin Hematoma</td>
<td>4</td>
<td>4%</td>
</tr>
<tr>
<td>Rupture</td>
<td>4</td>
<td>4%</td>
</tr>
<tr>
<td>Hemodynamic Instability</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Dissection</td>
<td>4</td>
<td>4%</td>
</tr>
<tr>
<td>Thromboembolic Event</td>
<td>3</td>
<td>3%</td>
</tr>
<tr>
<td>Iliac Injury</td>
<td>2</td>
<td>2%</td>
</tr>
<tr>
<td>Femoral Thrombosis</td>
<td>2</td>
<td>2%</td>
</tr>
<tr>
<td>Stroke</td>
<td>1</td>
<td>1%</td>
</tr>
</tbody>
</table>

Maldonado et al, EJVES 2016
Freedom From Secondary Interventions

Maldonado et al, EJVES 2016
Retrospective review of 10 patients with TASC D AIOD.

All patients high risk for aortobifemoral bypass

All patients had rest pain, 4 had tissue loss

Mean follow-up 40 months

Summary and Conclusions

Extensive aortoiliac occlusive disease involving the aorta and/or iliac arteries can be successfully treated with endografts.

High rates of procedural success, low morbidity.

Procedural planning crucial for sizing.

Tortuosity, minimal aortic diameter.
Thank You

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