Monday Conference
Division of Vascular Surgery
Interesting Case Conference

January 31, 2011
Case

- 72 year old female with an 8 cm Extent I TAA
- 2008 Ascending aortic aneurysm repair /AVR/CABGx1
- 3 month ICU stay with tracheostomy/bilateral blindness
- PMH: HTN, HL, Graves’ disease, COPD uses nighttime O2 (FEV1=1.25), CRI (Cr~1.5)
- PSH: above and C/S, lap chole, TAH
40-42 mm at distal arch
40 mm below SMA
9/10/10 Mesenteric Angio

16 mm
Periscope graft to extend distal landing zone in ruptured thoracoabdominal aneurysms with short distal necks

Zoran Rancic, MD, PhD, Thomas Pfammatter, MD, Mario Lachat, MD, Lukas Hechelhammer, MD, Thomas Frauenfelder, MD, Frank J. Veith, MD, Frank J. Criado, MD, and Dieter Mayer, MD, Zurich, Switzerland; New York, NY; and Baltimore, Md
Cath Lab 1/15/11

- Lee/Dake/Greenberg/G Lee
- Complex repair of TAA with reverse snorkel ("periscope") configuration
- Lumbar catheter
- Bilateral CFA exposure
Ascending Aorta via R CFA
16F Dry Seal sheath:  
8F Ansel sheath/C2 catheter  
5F UF catheter  

24F Dry Seal sheath
Visceral System
8x50 Viabahn (first)
8x50 Viabahn (second)

45x20 TAG
Simultaneous TAG/Periscope Deployment

8x28 OmniLink stent
Overlap region
Thoracic Aortogram
45 x 20 TAG
Molding at Periscope Overlap
SMA Angiogram
Post-Op

- Lumbar drain dc’d POD#2
- ICU until POD#3
- Urinary retention requiring foley on dc
- DC POD#8
- Foley removed 1 week later
Outcomes of planned celiac artery coverage during TEVAR

Manish Mehta, MD, MPH, R. Clement Darling III, MD, John B. Taggart, MD, Sean P. Roddy, MD, Yaron Sternbach, MD, Kathleen J. Ozsvath, MD, Paul B. Kreienberg, MD, and Philip S. K. Paty, MD, Albany, NY
Overview

- SMA-celiac collaterals critical for celiac artery coverage (CAC)
- SMA collaterals can result from celiac artery stenosis
- 10-15% patients have replaced right HA
- Largest series of CAC to extend distal seal zone during TEVAR
Methods

• Patients underwent detailed CTA of SMA-ceeliac collaterals
• Poor collateralization prompted verification with catheter-based angiography
• Celiac occlusion SMA angiogram performed
• Mean f/u 15 months
Results

• 31/228 TEVAR patients had CAC in 5 yrs

Table I. Patient demographics

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>TEVAR with celiac artery</td>
<td>31</td>
</tr>
<tr>
<td>coverage</td>
<td></td>
</tr>
<tr>
<td>Male/female</td>
<td>11 (35%), 20 (65%)</td>
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<tr>
<td>Mean age</td>
<td>74.2 years</td>
</tr>
<tr>
<td>Mean TAA size</td>
<td>6.5 cm (range 5.4 cm-8.2 cm)</td>
</tr>
<tr>
<td>Coronary artery disease</td>
<td>18 (58%)</td>
</tr>
<tr>
<td>Hypertension</td>
<td>28 (90%)</td>
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<tr>
<td>Chronic obstructive pulmonary disease</td>
<td>12 (39%)</td>
</tr>
<tr>
<td>Pre-existing renal failure (dialysis)</td>
<td>4 (12%)</td>
</tr>
<tr>
<td>Mean estimated blood loss</td>
<td>379 cc</td>
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</tbody>
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TAA, Thoracic aortic aneurysms; TEVAR, thoracic endovascular aneurysm repair.
## Results

### Table II. Complications in TEVAR patients with celiac coverage

<table>
<thead>
<tr>
<th>TEVAR with celiac artery coverage</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visceral ischemia</td>
<td>31</td>
</tr>
<tr>
<td>- Shock liver</td>
<td>2 (6%)</td>
</tr>
<tr>
<td>- Acalculus cholecystitis</td>
<td>1 (3%)</td>
</tr>
<tr>
<td>Paraplegia</td>
<td>2 (6%)</td>
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<tr>
<td>30-day mortality</td>
<td>2 (6%)</td>
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<tr>
<td>Type 1b endoleak @ distal attachment site</td>
<td>2 (6%)</td>
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<tr>
<td>Type II endoleak: celiac artery retrograde flow</td>
<td>3 (10%)</td>
</tr>
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TEVAR, Thoracic endovascular aneurysm repair.

- Death
- Cholecystectomy
- 1 death
- Coil embolization
- Coil embolization
Recommendations

• Thorough preop evaluation of celiac-SMA collaterals
• Treatment of coexisting SMA disease
• Vigilant objective monitoring for mesenteric ischemia
• CSF drainage
• Long terms surveillance of SMA stents crucial as in-stent stenosis at 3-5 yrs is common