When is Aortic Septotomy Indicated in Complicated TBADs: How To Do It Safely, Precautions & Results

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Why Aortic Septotomy?
• Complicated TAD and malperfusion
• Planning TEVAR or EVAR for aortic dissections
• Malperfusion following endovascular aortic intervention

Faculty Disclosure
For the 13 months preceding this activity, I disclose the following types of financial relationships:

• Grant/Research Support: Medtronic Ave., Terumo Medical Corp.
• Consultant: Penumbra Inc., Boston Scientific Corp.
• Shareholder: PQ Bypass Inc., Silkroad Medical Inc.
• Founder, President & CEO, Center for Vascular Awareness.
• Founder & Director, Albany Vascular International Academy
• Board Member, VIVA Physicians Inc.

I will be discussing products that are investigational or not labeled for use under discussion.
TEVAR Complication

- 62 yo hypertensive female
- Sudden onset chest & back pain (10 hrs)
- Now abdominal & left foot rest pain
- Complicated TBAD
- Visceral arteries: TL vs. FL?
- Left common iliac occlusion
- Right internal iliac occlusion
- Leukocytosis & Lactic acidosis

TEVAR Complication

- Acute Complicated TBAD
- TEVAR
**TEVAR Complication**
- Acute Complicated TBAD
- TEVAR
  - Stentgraft deployed above celiac
  - Celiac & SMA slow flow
  - Stentgraft – True lumen
  - SMA – now false lumen

**Plan Septotomy**
- Red arrow - Wire in Celiac and SMA
- Connect True and False lumen catheters via snare from right and left femoral approach

**SMA flow re-established**
- Celiac fills retrograde via SMA
- Distal aortic occlusion
**TEVAR Complication**

- Acute Complicated TBAD
- TEVAR
  - Septotomy
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**TEVAR Complication**

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**TEVAR Complication**

- Acute Complicated TBAD
- TEVAR
  - Distal abdominal aortic occlusion
  - Kissing iliac stentgrafts – move aortic bifurcation up to IMA level

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**TEVAR Complication**

- 66 year old male, HTN
- TBAD – Initially managed BMT
- 9 months later patient presents with chest pain - TBAD evolved to symptomatic TAA

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**TEVAR Complication**

- TEVAR, CS bypass, FL embolization
- Few days following discharge
  - Saddle paraparesis
  - Bilateral lower extremity paresthesias & urinary incontinence with very short distance ambulation
  - He is asymptomatic at rest.
  - Spine surgery consultation & MRI: Unremarkable

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TEVAR Complication

- TEVAR, CS bypass, FL embolization, transient cauda equina syndrome
- Plan: Aortic septotomy to improve pelvic blood flow

Endovascular “Intimal Flap Septostomy” for Safe Landing of a Stent Graft in an Anastomotic Pseudoaneurysm of Chronic Type B Aortic Dissection. Yoshiaki et al. EJVES 2017, 37:5-7

Septotomy Catheter for Aortic Dissection
Ramon Berguer, Juan Parodi (US9681915B2)
Personal Suggestions

• Catheter directed aortic septotomy is a useful adjunctive technique when treating select complex aortic dissections and aneurysms.

• These techniques can be used to improve stentgraft landing zones, treat visceral malperfusion, and pelvic/ lower extremity ischemia.

• These techniques are not to be taken lightly, and should be utilized selectively in high risk patients.