VEITHsymposium™
Blunt Aortic Trauma: When Not To Use Endovascular Treatments

Session 109- Saturday November 21, 2015
Joseph S. Giglia, MD
Associate Professor
University of Cincinnati College of Medicine

Disclosures
• Research Support
  – Cook Medical
  – Gore Medical

Objectives
• Discuss endovascular management of blunt aortic trauma
• Highlight when not to use endovascular techniques to treat blunt aortic trauma

Outline
• Brief evolution of endovascular repair
• Clinical examples demonstrating when endovascular repair works well
• When not to use endovascular repair

Early Endovascular Repair
• Infrarenal Aortic Extender Cuffs

Blunt traumatic aortic transection: endoluminal repair with commercially available aortic cuffs
Albert Saric V MD, Mehra Khubchandani MD, Jon Mahurin MD and Mark R. Safian MD
Journal of Vascular Surgery

Issues
• Multiple cuffs required
• Minimal overlap
• Limited diameter
• Misalignment

Disclosures
• FDA-approved devices in non-FDA approved manner
• Non FDA-approved devices
Wallstent® and Cuffs


Issues
• Limited diameter

Custom Made Thoracic Endografts

Custom-Made Thoracic Endografts

Issues
• Availability
• Deliverability
• Durability

Thoracic Endografts

• Commercially produced
• FDA-approved
• Full range of sizes

WL Gore, C-TAG
Endovascular Repair
Clinical Examples

• When does it work well?
• When does it not work well?

Aortic Injury-Blast

• 23 yo man transfer from another Trauma Center
• Industrial tire exploded during filling
• Left hemothorax
• Hypotensive

Aortic Injury-Blast

• Angio OR
• Local anesthesia
• Bilateral femoral exposure

Aortic Injury-Blast

Aortic Injury-Blast

• Five years later
Aortic Injury - Deceleration

- 52 yo woman
- MVC
- SICU
  - Paraplegia
  - Shock
  - No femoral pulses

Aortic Injury - Bony

- 77 yo woman
- Minor MVC 24 months prior
- Abnormal CXR for cough
- Outpatient CTA
When Not to Use Endovascular Treatment for Blunt Aortic Trauma?

NEVER!

When Not to Use Endovascular Treatment for Blunt Aortic Trauma?

Only when the treatment is non-operative

Minimal Thoracic Aortic Injury

1. Findings of acute aortic thoracic injury in the proximal and distal descending thoracic aorta, adjacent to the ligamentum arteriosum and near the hiatus. There is a small amount of strandy hemorrhage within the anterior mediastinum.
2. Multiple bilateral segmental rib fractures. Clinical correlation is recommended for flail chest, especially on the right.
4. Right forearm fracture, partially visualized on scout image.

Case of Minimal Aortic Injury
Minimal Aortic Injury

Minimal Aortic Injury

4 Months Later

4 Months Later

Blunt Aortic Trauma Summary

- Endovascular Repair for Blunt Aortic Injury
  - Blast
  - Deceleration
  - Bony

Blunt Aortic Trauma Summary

- Endovascular repair of blunt aortic trauma
  - Rapid
  - Effective
  - Durable

- Endovascular repair should only not be used when the injury does not require treatment