False Lumen Procedure in Chronic DeBakey IIIb Aneurysm : CDIIIb Entry tear closure

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Disclosure

Speaker name:

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I have the following potential conflicts of interest to report:

☐ Consulting
☐ Employment in industry
☐ Stockholder of a healthcare company
☐ Owner of a healthcare company
☐ Other(s)

☒ I do not have any potential conflict of interest
**Introduction**

- **Type B aortic dissection**

  Successful TEVAR (**favorable aortic remodeling**) = TL expansion + FL thrombosis

- **False lumen (FL) Thrombosis**
  1. First step to aortic remodeling
  2. An important surrogate for **aortic remodeling**
  3. Especially important in **CDIIIb** aortic dissection
     - Induce FL thrombosis @ thoracic & abdominal aorta

- **TEVAR alone** may not be sufficient
  
  need adjunctive technique
CFD Simulation

Assumption

- Non-Newtonian fluid
- Pulsatile flow
- Rigid aortic wall
- No intima mobility
- No aortic branch

After proximal tear coverage

retrograde FL perfusion
Via distal tear
Adjunctive techniques for FL thrombosis

**False lumen Procedure**

A. Plug up the intima tear with vascular plug
   - **Less than 10-12 mm**
   - **Enough FL space** to avoid denting of central and distal disk

B. Insert vascular plugs, coils, glue to block FL flow
   - **Not for Patients** with excessively large FL (>2-3 largest AVPs)

C. Plug up the ICAs & Lumbar a. from FL

D. Insert stent graft into visceral branches

**Stentless-TEVAR**

- FLPs without conventional TEVAR
Case

- 64Y / F
- HTN, s/p 2 partial aortic arch replacement d/t acute type A AD (2012)
- Chronic DeBakey IIIb (CDIIIb)
- Aneurysmal change progression
Chronic DeBakey IIIb (CDIIIb)

- Mid-DTA aneurysmal progression (34mm ➔ 44mm ➔ 49mm)
- Re-entry tear at
  - T5, T7
  - bilateral renal arteries
  - communicating channels at lumbar branches
  - abdominal aortic bifurcation
1. DTA proximal small entry tear
2. communicating channel at mid-DTA
3. suprarenal aortic false lumen
DTA proximal small entry tear:

6mm AVP closing through 6F guiding sheath via false lumen approach
The other communicating channel at mid-DTA:
Negotiated via true lumen side & 8mm AVP closing through 6F guiding sheath
Suprarenal aortic false lumen:

1. embolization using 3 pieces 22mm AVP through 8F guiding sheath
2. 19 pieces of 0.035" multiple NesterCoils through 5F catheter supported by 6F Ansel sheath
Final Aortogram & Post-3 months CTA
Complete thrombosis of DTA false lumen
- pDTA diameter 36.6 mm ← 41.8 mm
- mDTA diameter 35.8 mm ← 49.1 mm
False lumen procedure in CDIIIb Aneurysm

Take home message

- **False lumen procedure**
  - **Ideal indications**
    - Persistent FL perfusion after successful TEVAR (simultaneously or staged)
    - FL is not excessively large
  - **Advantages**
    - Reduce FL perfusion effectively
    - Available for residual abdominal dissection
  - **Disadvantages**
    - No long term results

- **Stentless-TEVAR**
  - **Ideal indications**
    - Dissection with small entry tear
    - Pts who need head vessel revascularization for Zone 1, 2 TEVAR
    - Pts with multiple communicating channels within abdominal aortic dissection
  - **Advantages**
    - Do not necessitate head vessel revascularization
    - No risk of retrograde type A dissection
    - No stent-induced new entry tear
  - **Disadvantages**
    - No long term results
    - Not available for large entry tear
With the Love of God, Free Humankind from Disease and Suffering
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