Despite Common Believe:

Oversizing is Justified in TEVAR for TBAD

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Disclosures

- Research-grants, travelling, proctoring speaking-fees, IP, royalties with Cook.
- Consultant with Philips
- Research, consulting, royalties with Vascutek.
- Shareholder Mokita Medical
Disease Specific Approach

Aneurysm

Dissection

Transsection

Coarctation
Guideline Recommendations on Oversizing:

Editor's Choice — Management of Descending Thoracic Aorta Disease

Clinical Practice Guidelines of the European Society for Vascular Surgery


Eur J Vasc Endovasc Surg (2017) 53, 4-52
Retrograde Type A Dissection

- Incidence <2%
- Poor outcome (50% †)
- Risk factors (‡)
  - Balloon dilation
  - Proximal bare stents
  - Hooks / barbs
  - Rigid non-compliant devices
  - Arch-LZ
  - Oversizing
  - CTD
Barestents

- Excessive radial force of uncovered stent-tops
- Crossing into aortic arch-branches
- Pressure erosion due to arch-movements
- Traumatic deployment
- Retrograde type A dissection
Landing Zone Problems

- Steep Angle
- Short landing zone
Proximal Conformance
Proximal Landing
Retrograde TAAD

Registry data

* 1010 TEVAR, 16 rTAAD (1.6%)
* RTAAD: 22% oversizing
* No rTAAD: 10.3% oversizing
* Recommendation: ≤10%

Canaud et al. 2014; Ann Surg 260:389-95
Retrograde TAAD

- Retrospective single-center
- 203 TBAD, 11 rTAAD (5.4%)
- Risk factors:
  - Excessive oversizing (>5%)
- Recommendation: ≤5% oversizing for TBAD

Pulsatility

Toward Endografting of the Ascending Aorta: Insight into Dynamics Using Dynamic Cine-CTA

Joffrey van Prehn, MD1; Koen L. Vincken, PhD2; Bart E. Muhs, MD, PhD3; Gijsbrecht K. W. Barwegen, BS1; Lambertus W. Bartels, PhD2; Mathias Prokop, MD, PhD4; Frans L. Moll, MD, PhD1; and Hence J. M. Verhagen, MD, PhD1,5

J ENDOVASC THER 2007;14:551–560

15% Max Diameter Change
Proximal Landing Zone

10% Difference!
What about the Seal?
What about the Seal?
Proximal Seal-Zone (PSZ) Complications

- Retrospective single-center study
- 76 TEVAR, 93.5% technical success
- PSZ-complications: 21/76 (28%)
  - Type 1a endoleak
  - Bird-beak
  - Migration
  - Retrograde TAAD

Risk-factors:
- Tortuosity and
- Proximal neck diameter

Peidro et al. 2017; Ann Vasc Surg: epub
Reintervention after TEVAR

Reintervention after thoracic endovascular aortic repair of complicated aortic dissection

Elsa M. Faure, MD, Ludovic Canaud, MD, PhD, Camille Agostini, MD, Roxane Shaub, MD, Gudrun Böge, MD, Charles Marty-ané, MD, PhD, and Pierre Alric, MD, PhD, Montpellier, France

- Retrospective single-center 2000-2011
- 41 CAD, 14 Reinterventions
  - Type1 endoleak (7)
  - Migration (2)
  - rTAAD (1)
- Risk factors:
  - Excessive oversizing (>20%)
  - Bare-spring stentgraft
  - Anticoagulant therapy
- Recommendation: ≤20% oversizing

Retrograde TAAD

- IRAD database 1995-2008
- 4750 TBAD, 63 rTAAD (1.3%)
- Causative factors:
  - Stent-graft properties
  - Wire manipulation
  - Disease progression

Eggebrecht et al. 2009; Circulation 120 s1: 276-81
Landing in un-dissected aorta proximally requires oversizing 10-20% to avoid Type I Endoleak.

Landing in dissected aorta distally does not require oversizing.

Knowledge about gating-technique, pulsatility.

Recommendations derived from retrospective data analysis should be treated with caution!
Welcome to Essen!

5th Aortic Live Symposium

Aortic Live 2018
October 29-30, 2018
Congress Center Essen, Germany

In 2018 Aortic Live Symposium will return to Essen, Germany again. We are looking forward to welcoming you again next year!
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