



Tailoring the treatment of fragile aorta with the Valiant Navion Coveredseal device: my clinical experience in TBAD

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Disclosure

Speaker name:

Theodoros Kratimenos

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



SURGERY FOR AORTIC DISEASE

Retrograde Ascending Aortic Dissection During or After Thoracic Aortic Stent Graft Placement

Insight From the European Registry on Endovascular Aortic Repair Complications

Holger Eggebrecht, MD, Matt Thompson, MD, Hervé Rousseau, MD, Martin Czerny, MD, Lars Lönn, MD, Rajendra H. Mehta, MD, MS, and Raimund Erbel, MD

Overall, 27 European centers and 1 Chinese center participated in the registry. During the period from 1995 to 2008, a total of 4750 TEVAR procedures were performed in these 28 centers

Conclusions— The incidence of rAAD was low (1.33%) in the present analysis with high mortality (42%). Patients undergoing TEVAR for type B dissection appeared to be most prone for the occurrence of rAAD..... Importantly, the majority of rAAD cases were associated with the use of proximal bare spring stent grafts with direct evidence of stent graft–induced injury (semirigid device design) at surgery or necropsy in half of the patients.

[J Am Heart Assoc.](#) 2017 Sep; 6(9): e004649.

PMCID: PMC5634245

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PMID: [28939705](https://pubmed.ncbi.nlm.nih.gov/28939705/)

Retrograde Type A Aortic Dissection After Thoracic Endovascular Aortic Repair: A Systematic Review and Meta-Analysis

[Yanqing Chen](#), MD,^{1,2,†} [Simeng Zhang](#), MD,^{1,2,†} [Lei Liu](#), MD,^{1,2,†} [Qingsheng Lu](#), MD,^{1,2} [Tianyi Zhang](#), MD,³ and [Zaiping Jing](#), MD^{1,2}

Methods and Results

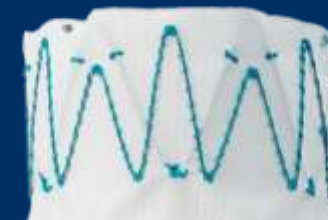
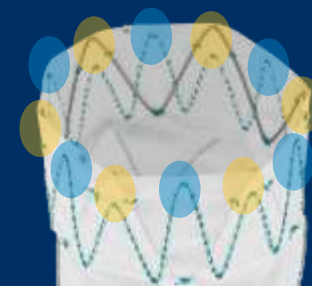
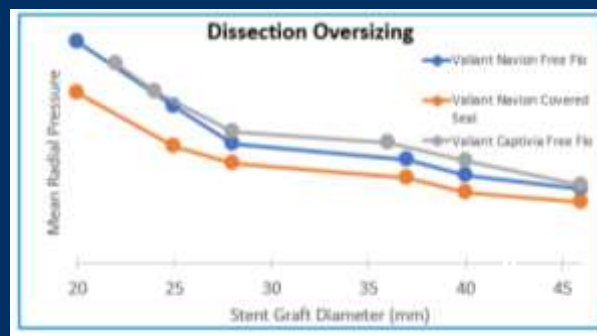
Multiple electronic searches were performed. Fifty publications with a total of 8969 patients were analyzed. Pooled estimates for incidence and mortality of RTAD were 2.5% (95% confidence interval [CI],

Conclusions

The pooled RTAD rate after TEVAR was calculated at 2.5% with a high mortality rate (37.1%). Incidence of RTAD is significantly more frequent in patients treated for dissection than those with an aneurysm (especially for acute dissection), and when the proximal bare stent was used. Rate of RTAD after TEVAR varied significantly according to the proximal Ishimaru landing zone. The more-experienced centers tend to have lower RTAD incidences.

CoveredSeal Valiant Navion - Type B Aortic Dissection (Fragile Aortic Wall Pathology)

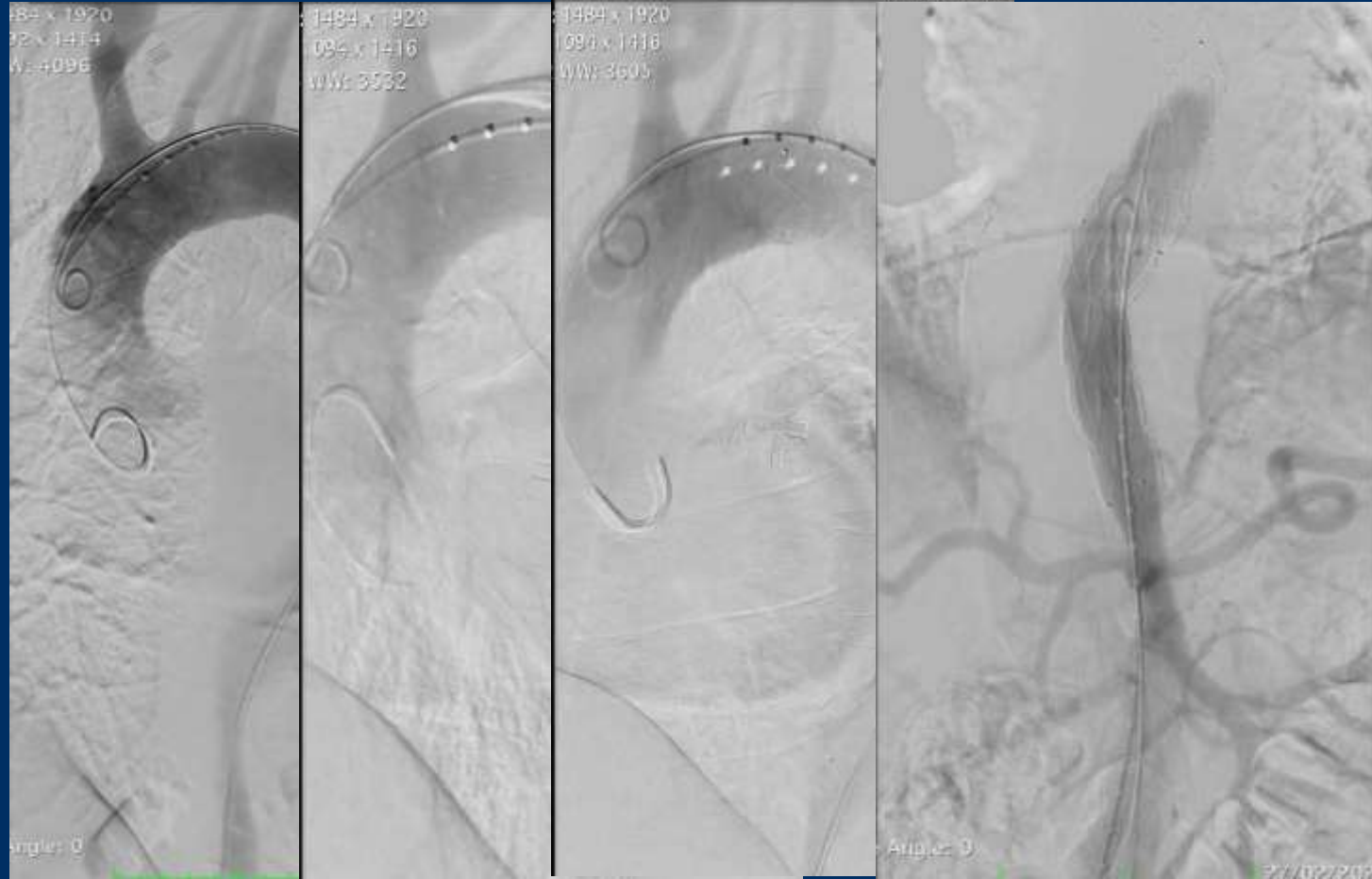
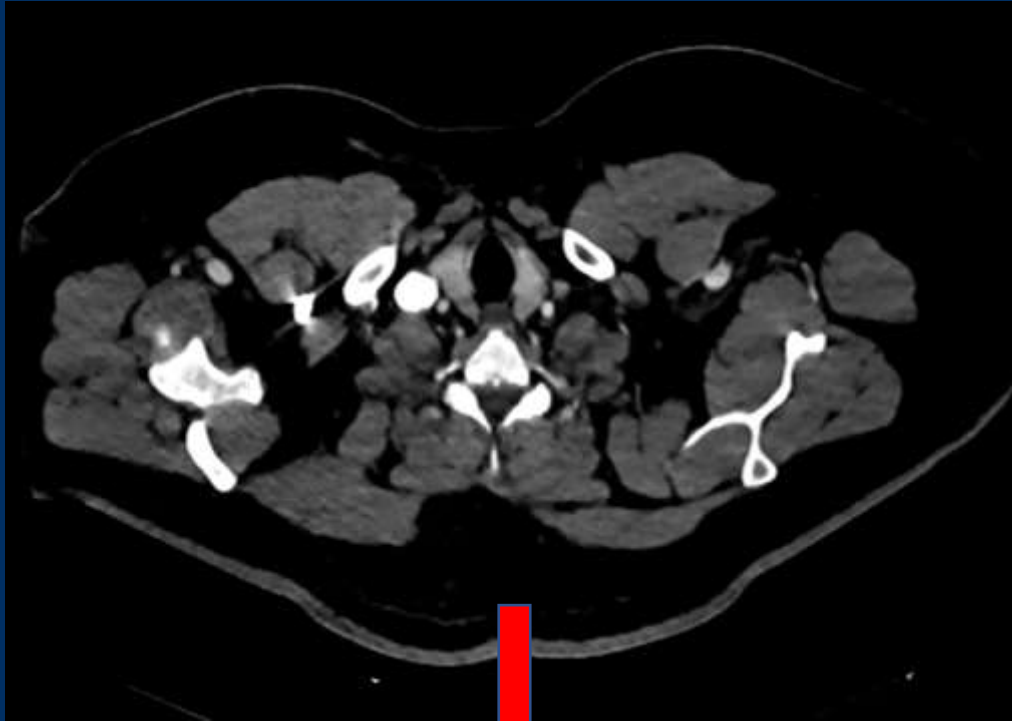
“Soft touch” for decreased vessel trauma



- CoveredSeal’s proximal stent is fully enclosed within the graft
- Tip capture mechanism, holds on to internal seal stent
- Lower radial pressure
- Greater tapering of 5 and 6 mm
- “W” stent allows for graft material support between internal stents to **enhance apposition and seal**
 - Infolding resistance

Clinical Case: **Acute type b Aortic Dissection**

51 y/o male, type b dissection 5 days ago,
Uncontrollable hypertension and unrelenting pain
despite optimal medical therapy



Coveredseal NAVION

VNMC3428C207TE (prox)

VNMC3131C182TE (distal)

Clinical Case: **Acute type b Aortic Dissection**

30 DAYS post TEVAR f-up CT

TL: expanded,

FL: totally thrombosed,

Satisfying descending Thor.
Ao remodelling

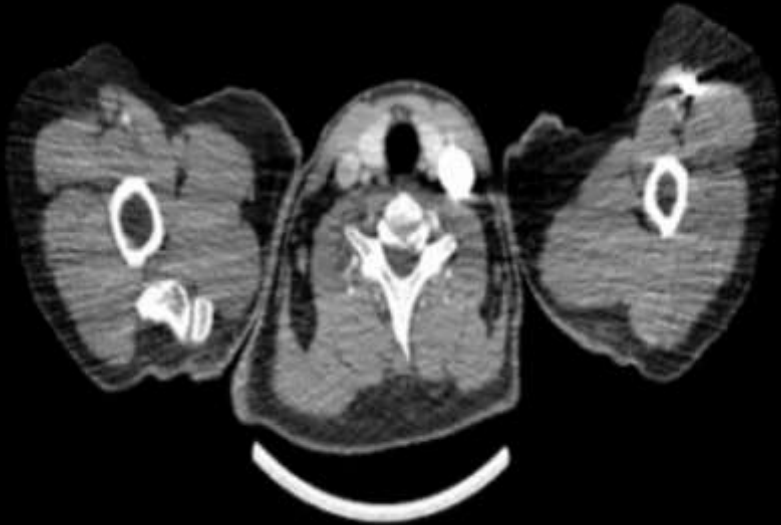


Clinical Case: **Subacute type b dissection**

47 y/o Male, Hypertension,
Type B Dissection 2 weeks ago

14 days Follow-up CTA reveals:

- FL and Descending thoracic aorta enlargement
- TL is compressed,
- covering LSA >> 25mm prox landing zone length



COVEREDSEAL NAVION

Product Code	Remarks
VNMC3434C182TE	PROX
VNMC3731C207TE	DISTAL

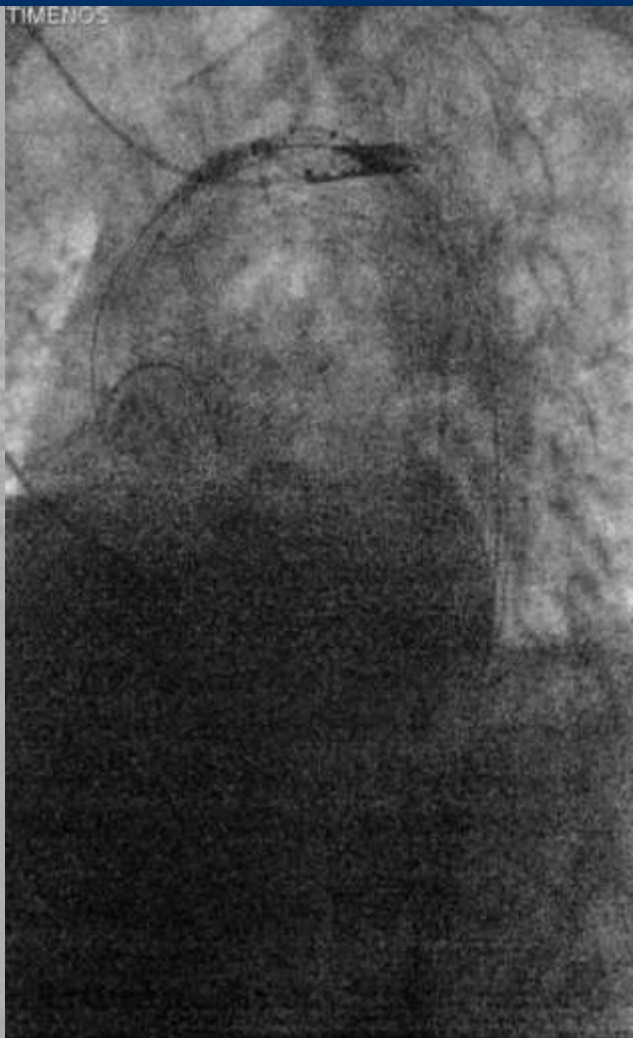


S/G Advancement and Positioning keeping the delivery system against the outer aortic curve

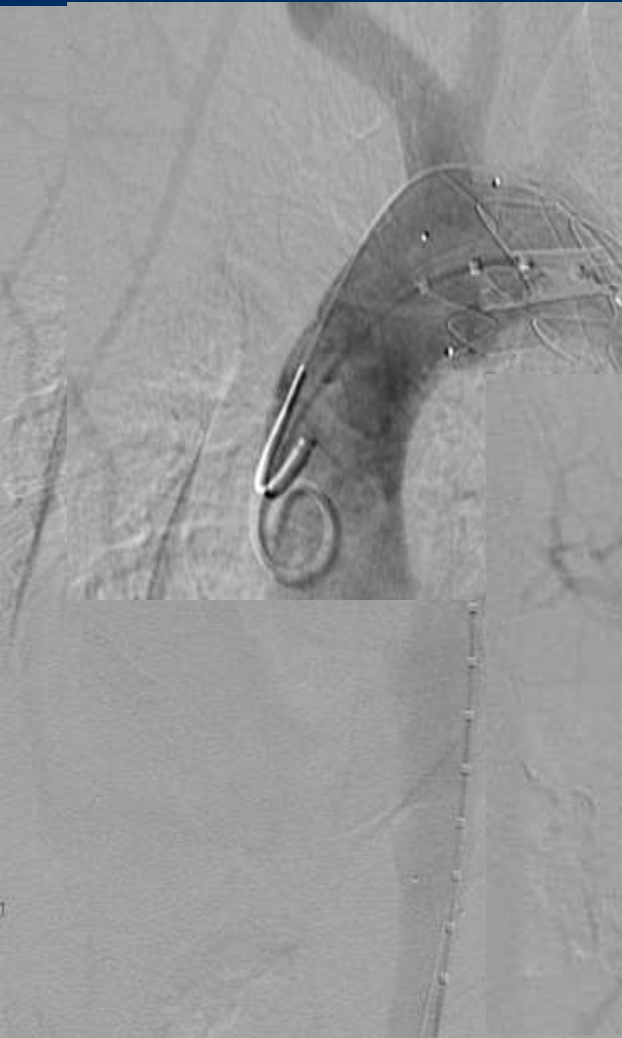
Clinical Case: **Subacute type b dissection**



Graft deployment keeping the delivery system against the outer aortic curve



Delivery system relaxation
Tip-capture release



Precise prox S/G deployment



Accurate distal S/G deployment

Clinical Case: **Subacute type b dissection**

1 Year Post TEVAR Follow-up CT

- TL: completely expanded,
- FL: almost no evidence,
- Excellent descending Thor. Ao remodelling



CLINICAL CASE: CHRONIC TYPE B DISSECTION

- FEMALE 50 years old,
- Type A dissection 6 months ago, surgically treated, residual TBAD
- F-up CTA reveals: **FL and descending Thoracic aorta enlargement, compressed TL**



Coveredseal Navion

1

VNMC3131C223



Precise and accurate deployment despite aortic arch angulation

CLINICAL CASE: CHRONIC TYPE B DISSECTION



6 months post TEVAR f-up CT

Elective 2nd stage TEVAR to complete Frozen Elephant Trunk



- FET technique may fail to achieve false lumen obliteration at the descending thoracic aorta level in 8–15% of patients

Di Bartolomeo R, et al. Frozen elephant trunk surgery in acute aortic dissection. J Thorac Cardiovasc Surg 2015;149:S105-9

Clinical case: TEVAR post FET.

Male 48 y/o,
history of FET for type A dissection 6 months
ago,
now presents with:

1. TL compression distally of the surgical graft,
2. FL patency and
3. descending thoracic aorta diameter enlargement



Coveredseal Navion
VNMC3737C223TE

Clinical case: Elective 2nd stage TEVAR to complete Frozen Elephant Trunk

1 Year Post FET AND
6 Months Post-TEVAR CT scan

Pre TEVAR ANGIO

Stent-Graft Positioning -

Post S/G Deployment Angio



Take home messages and learnings

- ✓ Since Nov. 2018 more than 20 pts have been treated in our department for TBAD with Navion Coveredseal
- ✓ The features of the Valiant Navion Coveredseal system make it a suitable choice for the treatment of fragile aortas, minimizing disruption to the native vessel.
- ✓ A Post Market Registry (DISSECT-N TRIAL) started to better understand outcomes regarding these complex patient populations.
- ✓ Our center is one of the 44 worldwide centers participating in this trial

Thank you