



Virginia Mason™

Case Presentation

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DISCLOSURE

Derek Nathan, MD

- No relevant financial relationship reported

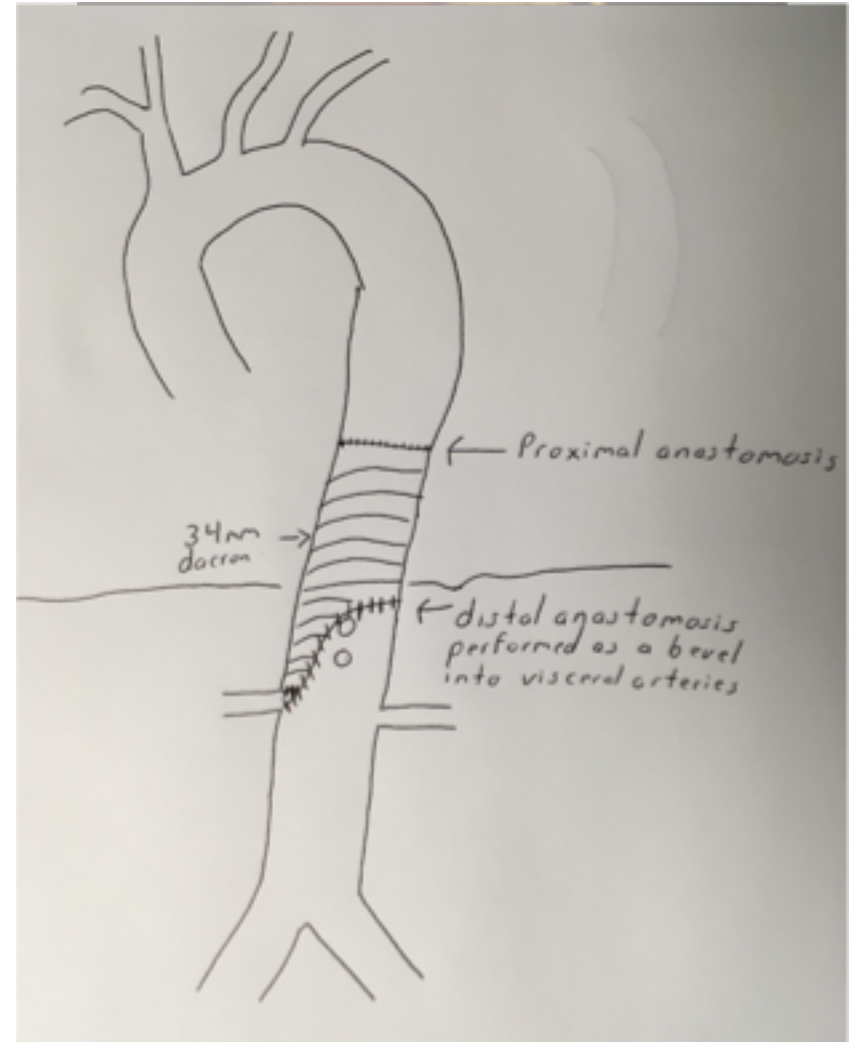
Initial Presentation

- 72 yo man with a 6 cm type V thoraco-abdominal aortic aneurysm
- PMHx: Bladder cancer s/p cystectomy & bilateral pelvic lymphadenectomy



Initial Operative Repair

- Open repair
 - “Clamp and sew”
- Distal anastomosis beveled to incorporate visceral arteries as single anterior tongue



Idealized drawing

Postoperative Course

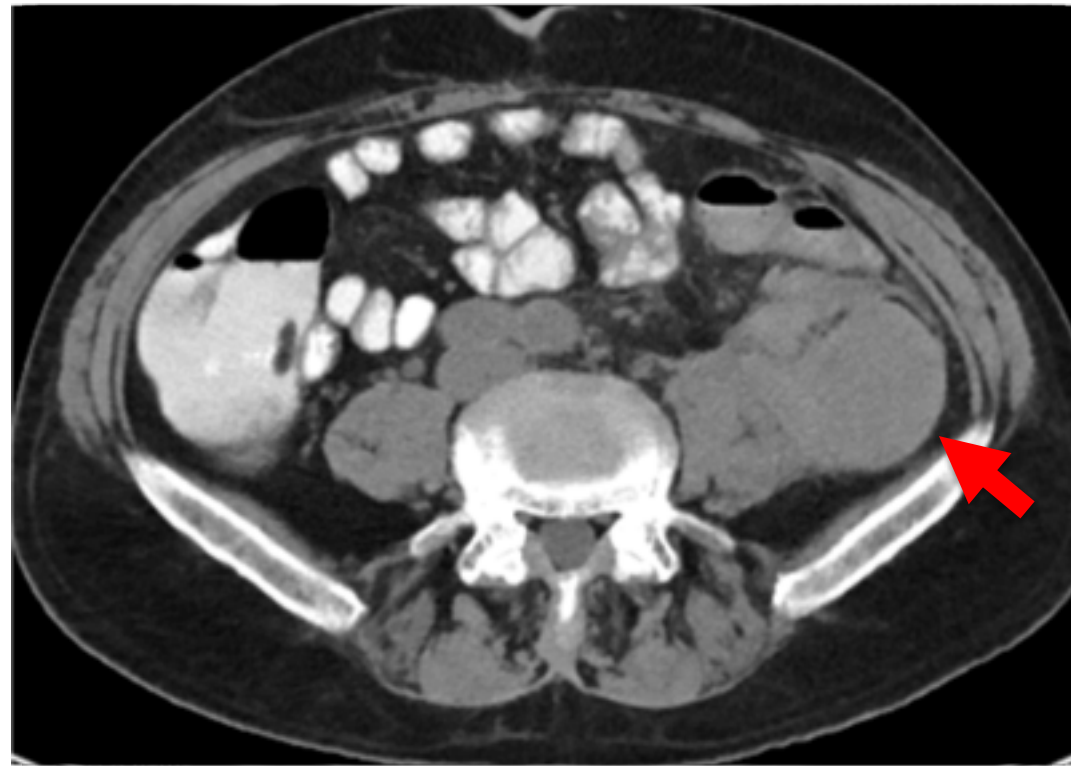
- Discharged on POD 9
- No complications of spinal cord or visceral ischemia
- Acute kidney injury with new baseline creatinine of 1.8

Re-Presentation

- Four months later, patient developed new onset back pain

Imaging

- Persistent aneurysm
- Hyperdensity at distal anastomosis
- Hyperdense fluid tracking down left retro-peritoneum



What Would You Do

- Symptomatic thoracoabdominal aortic aneurysm leaking at the distal anastomosis of a repair done four months prior

Treatment Options

- Open repair
- Hybrid repair
- Endovascular repair
- Go back in time

Endovascular Repair

Endovascular treatment of thoracoabdominal aortic aneurysm using physician-modified endografts

Matthew P. Sweet, MD, Benjamin W. Starnes, MD, and Billi Tatum, RN, CRCC, *Seattle, Wash*

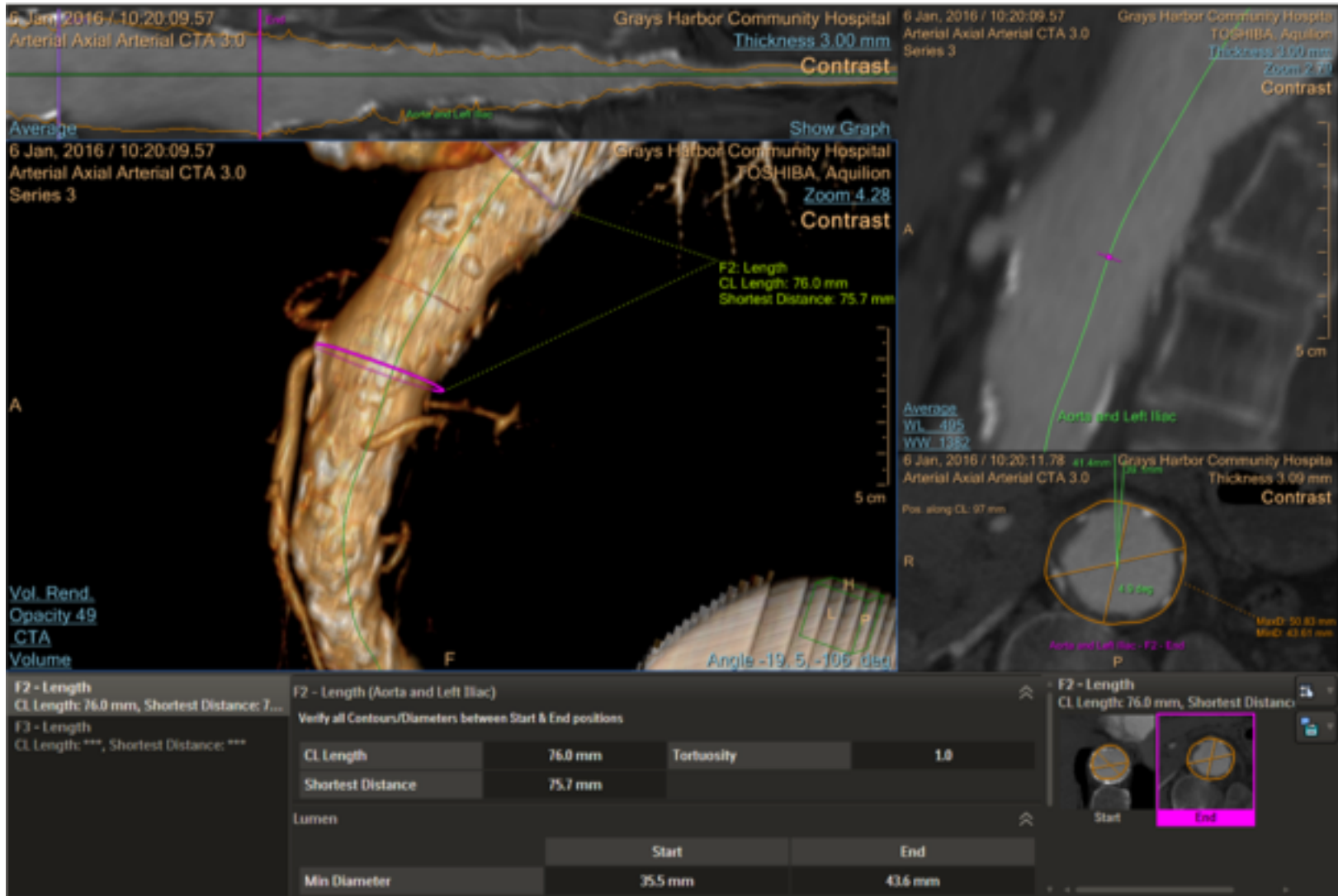
Objective: To report an initial experience with physician-modified thoracic endografts for endovascular treatment of thoracoabdominal aortic aneurysm (TAAA).

Methods: Single-center cohort study of the treatment of TAAA using a physician-modified fenestrated thoracic endograft for patients deemed to be at high risk of open repair. The cohort includes 21 patients in a prospective physician-sponsored U.S. Food and Drug Administration-approved investigational device exemption study and three patients treated outside the investigational device exemption. The procedure involves physician modification of a Cook TX2 thoracic stent graft with reinforced fenestrations. Branch stents were iCast balloon expandable stents. Treatment success was defined as successful aneurysm exclusion with freedom from permanent organ system dysfunction and return to preoperative level of independent functional status.

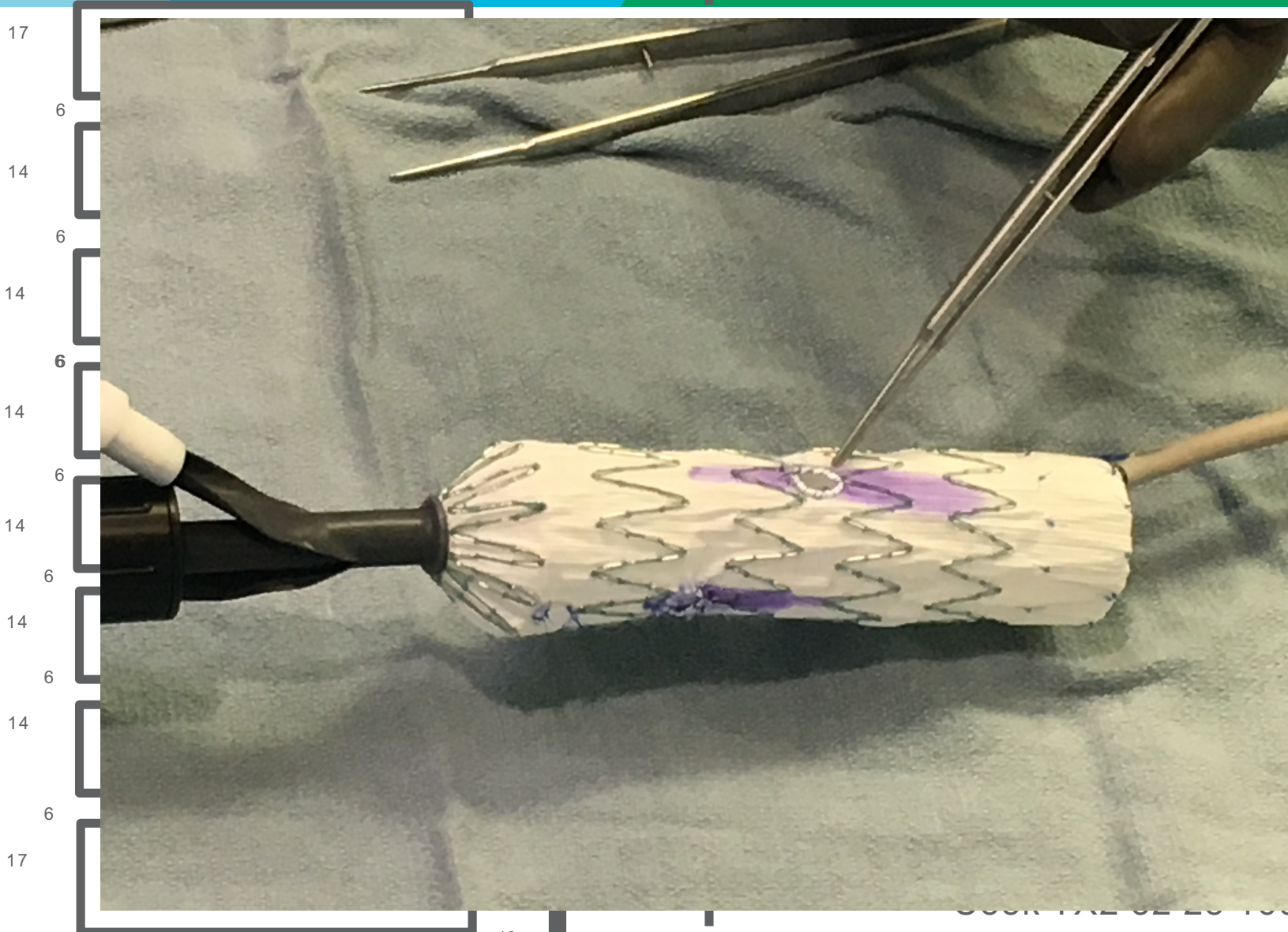
Results: Twenty-four consecutive patients were treated. Twenty-one patients (88%) met the endpoint of treatment success at a mean of 11 months follow-up. One patient (4%) died within 30 days due to complications of spinal cord injury (SCI). One patient (4%) died 4 months postoperatively after a prolonged recovery from surgery. One other patient (4%) is alive 13 months after operation with permanent SCI. One renal reintervention has been required. No device failures have occurred.

Conclusions: Early-term data suggest that physician-modified fenestrated thoracic endografts can be used to safely and effectively treat TAAA in patients at high risk of open repair. Physician-modified devices perform similarly to commercially manufactured grafts in terms of treatment success, SCI, perioperative death, and clinical outcome at short-term follow-up. Physician modification is immediately available and allows for a high level of customizability. Procedure success is contingent upon careful preoperative planning, patient selection, experienced providers, and a high volume center. (*J Vasc Surg* 2015;62:1160-7.)

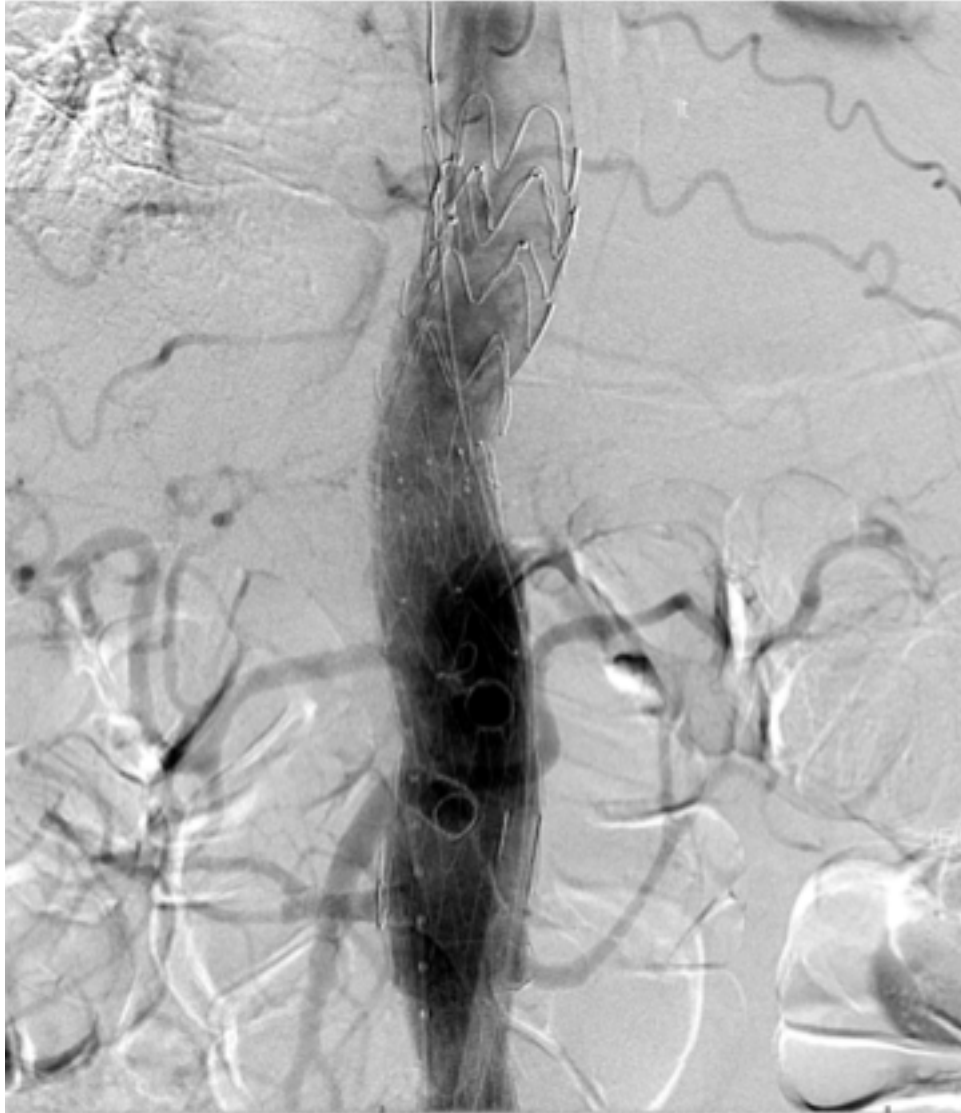
Endovascular Repair



Endovascular Repair



Endovascular Repair



Postoperative Course #2

- Discharged on POD 11
- No complications of spinal cord or visceral ischemia
- Stable creatinine of 1.8

Patient Follow-up



09/2016:

6.0 x 6.0 cm



12/2017:

4.8 x 5.3 cm

Disclosures

- Repair performed outside instructions for use for symptomatic, leaking aneurysm

Acknowledgements

- Dr. Singh and PNEC Program Committee
- Dr. Sweet and Starnes for training me to do this case



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Each Person.
Every Moment.
Better Never Stops.