Hybrid Repair of Thoracoabdominal Aortic Aneurysm with Total Infrarenal Aortic Occlusion: De Novo Technique

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History

- 52-year-old male was referred to us with enlarging thoracoabdominal aortic aneurysm Type3 (extending from the midthoracic aorta to the aortic bifurcations)
- **C/O**: severe leg claudication and back pain.
- **PMH**:
  - *Severe COPD*.
  - *stroke* with mild right hemiparesis and slurred speech.
  - hypertension, diabetes and epilepsy.
Work up

- **CTA:**
  - Large Type III TAAA (6.5cm).
  - Thrombosis of IR portion of TAAA and both CIA.
  - Stenosis of celiac artery, Patent SMA.
  - Left renal artery occlusion with atrophic left kidney.
  - Right renal stenosis.
  - Normal creatinine level.
CTA

Distal Thoracic Aorta

Supraceliac Aorta
CTA

RT Renal Artery stenosis
Atrophic LT Kidney

Thrombosis of IRAAA
What To Do Next?

- Branched stent graft (question mark access).
- Fenestrated stent graft (question mark access).
- Hybrid procedure.
- Open surgical repair.
Plan

- Aorto bifemoral bypass from the thrombosed AAA without aortic clamping
- Open thrombectomy of the Aorta
- Aorto-RT renal bypass, and Aorto-SMA and Celiac bypass using bifurcated graft from the lower end of the ABFB graft
- Endovascular repair of the thoracic portion of TAAA using Medtronic stent graft from the LT limb of ABFB graft
Aortobifemoral Bypass Graft
Aorto-Renal & Aorto-Celiac/SMA Bypass
Anastomosis of the graft to the Celiac Artery
Anastomosis of the graft to SMA & RT Renal artery
Postoperatively

- Kidney function deteriorated then normalized.
- No stroke.
- No paraplegia.
F/U CTA
Conclusion

- Modified hybrid repair of TAAA is a potential alternative to open repair, especially in high-risk patients with extensive infrarenal aortic thrombosis.
- Advantages: No need for thoracotomy or aortic clamping.
- Long term result still need to be validated.
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