TCT Challenging case forum
Hybrid Exclusion of a Subclavia Lusoria Aneurysm after bilateral carotid bypass

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Disclosures

- Disclosures: NONE
- Off-label use of some products may be discussed
72 y/o female presented to an outside hospital with symptoms of rt. hand numbness, dysarthria, dysphagia & chest pain.

CT of the neck and head revealed an anomalous origin of right SCA (Subclavia Lusoria) with a 28 mm aneurysm.
Clinical Background

- **PMHx:** h/o CVA right sided >3months ago, HTN, CAD, s/p CABG x 3 (5yrs prior), Hyperlipidemia, PVD, Infrarenal AAA (3.4 cm)
- **PSHx:** Hysterectomy 1975, Lung Surgery 1971, PCI to RCA, 3 vessel CABG
- **FamHx:** Brother/MI & Aortic Dissection
- **SocHx:** nonsmoker
- **Meds:** On antiplatelet RX, statin, β-blocker, ARB
BP: Rt brachial 129/70 Lt 130/70

HEENT: Rt Neck & subclavian bruit

Neuro: CN II-XII intact, 5/5 strength

Tests:

- **Nuclear perfusion**: Reversible basal and mid anterior ischemia (mild). LVEF 51%
- **Carotid Duplex**: Mild b/l disease
- **CT head**: multiple small old infarcts
Because of comorbid conditions, patient was considered too high risk for surgery and was referred for hybrid endovascular treatment.
1. Bilateral carotid-subclavian bypass (shown)
2. Rt aberrant subclavian aneurysm exclusion
3. PCI -> OM stenosis

- Successful bilateral CCA to SCA bypass
- OM PCI: 2.5x28 stent
- 1 mo later – planned aneurysm exclusion with thoracic stent graft and vascular plug
Plan: Thoracic Stent graft and Vascular plug to Exclude the aneurysm

Aortic Angio
Lt. FA 8 F Sheath

IVUS Lt. iliac
Procedure

- 0.035” 260cm Meier wire Lt FA
- PTA was done throughout the length of the artery with a 10x40 mm balloon
- 18 F dilator could not be advanced over the wire!
Three 9x59 iCAST covered stents were deployed & PTA with a 10x40 mm balloon was done
• 0.035” Lunderquist wire was inserted and exteriorized via the Lt. brachial artery access in a “body floss technique”
• 22 F Talent device could not be advanced
Heparin effect was reversed
• Both femoral arteries were repaired with 10F Prostar XL
• The pt. remained stable throughout hospital course
• Discharged the next day with the intention of a different attempt in a month
1 mo. later: S/p bilateral carotid-SCA bypass, Intervention with AGA vascular plugs

- Lt. CCA to SA bypass

- Rt. FA: 7F Shuttle Select™ & H1 catheter
Equipment & Procedure

• Subclavia Lusoria Aneurysm occlusion with 2 Amplatzer Vascular plug II:
  • Distal 14mm diam x 10mm
  • Proximal 22 mm diam x 18 mm
  • (AGA Medical Corporation)
14 x 10 mm Amplatz plug II
22 x 18 mm AGA Vascular Plug II
distal scallop is positioned in the arch
• D/C on POD #1
• No events upon follow-up

Vascular Plugs

Lt. CCA To SCA bypass
Follow-up CT Angio at 1 month

Vasc. Plug

Car. to SCA bypass
• Access problems are not uncommon with current generation TAA endografts (most require 22-24F sheaths!)

• This problem is more common in females!

• Proper pre-procedural planning for the best access is mandatory! (Iliac conduit!)

• “Pave & Crack” technique does not always work!

• Be aware of potential, spasm, dissection, rupture, evulsion & retroperitoneal bleeding!
Subclavia Lusoria aneurysm is an uncommon condition, rarely treated with endovascular approach.

Proper surgical and endovascular strategy is essential to achieve good results.

Vascular plugs can be used for excluding inflow and outflow of unusual aneurysms.

This innovative approach can be of great benefit to patients that are at high risk for surgery.
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