SMA Dissection after EVAR

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Disclosure

Speaker name:
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I have the following potential conflicts of interest to report:

☒ Consulting: Cook, Endologix, Aztra-Zenica, Bayer, Gore
SMA dissection after EVAR

“Inattention to detail is the hallmark of mediocrity.”

- Dr. Michael E. DeBakey
Clinical Vignette

• 80 yr old male transferred to our hospital for abdominal pain
• PMHx: CAD (‘old’ MI in past), HTN, CKD, HF, CVA
  – Multiple prior abdominal surgeries
• Non-smoker, no Hx of aneurysmal disease
• Medications: long-acting nitrate, Simvastatin, carvedilol
• Labs: WBC: 6.9  H/H: 11.7/34.4  Plts: 208  Scr: 0.87 mg/dL  HFP: wnl
Clinical Vignette

- Physical Exam: 135/79  83  95% RA  afebrile
  Abdominal exam: + BS, tender

CT scan ordered, found to have 6.1 x 6.1 cm infrarenal abdominal aortic aneurysm

Felt to be symptomatic by surgeon, we were asked to assist in EVAR ('hostile abdomen')
EVAR Procedure

Initial Angiogram, after bilateral cutdowns

Positioning angiogram, Medtronic Endurant 25x16x166 mm
Type I Endoleak
Hostile Neck

Large Type I Endoleak
Addressing the Endoleak

• Proximal aortic extension placed
  – 25 x 25 x 49 mm
    • Still did not have adequate seal

• 40 mm balloon expandable stent mounted on 22 mm balloon
Oops...

Dissection of left renal artery

Reference image
Medtronic Endurant
Renal artery dissection after proximal extension and Palmaz BMS PTA and 5.5 x 15 mm BMS
We forgot one thing
Post-Procedural Course

• Post-op note pt doing “well”

• after anesthesia wore off “acute, diffuse abdominal pain”
  – “pain out of proportion to exam”

• Emergent CT scan ordered:

CT ANGIOGRAPHY ABDOMEN AND PELVIS  09/03/2014 20:55  Finalized

IMPRESSION:

1. Satisfactory endovascular stent graft placement. There is acute dissection involving the proximal and mid-superior mesenteric artery producing severe narrowing of the mid-superior mesenteric artery.
2. The native aneurysm is stable and there is a type II endoleak via a patent inferior mesenteric artery and lumbar arteries.
3. No evidence for bowel wall thickening or pneumatisis. No free air is seen.
4. Ribocilal arteriostosis.
Acute abdomen with acute disruption of SMA

- Brought emergently to cath suite
- Left brachial artery access
  - 4F micropuncture → 6F 90 cm sheath
  - 6F multipurpose guide used, after origin found
  - Multiple wires
    - .014 workhorse
    - .014 hydrophilic
    - .018 hydrophilic
    - .014 stiff coronary
  - .035 support catheter
Attempt to Rescue SMA

SMA dissection, thrombus
Rescue complete

Stent deployment, after finding true lumen

Final angiogram after 2 SES
Post-op Course

• After SMA recanalization sx improved
• Watched for mesenteric ischemia
  – Diet slowly advanced
• Complicated by bilateral groin hematomas, AKI, volume overload (EF 25%)
• Discharged 7 days later to skilled nursing facility
• Alive at one month follow-up
Keep Your Eye on the Ball

• Appreciate relationship between mesenteric arteries, renal arteries and proximal seal
• Document patency on final angiogram
• If you have one dissection, you can have two (apparently)
• Make sure your housestaff can recognize an acute abdomen
Thank You
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