Strategies on the Frontline Case
Illustrative Venous Case

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Disclosures

• **Symposia Honoraria & Proctor Fees:**
  • Abbott, Endologix/ TriVascular

• **Symposia Honoraria:**
  • Boston Scientific, Bard, Gore, CSI, Medtronic

• **VIVA Board Member**

• **National PI/Co-PI:** Confidence, SAPHIRE WW, CANOPY

• **Research Grants, Stocks, Equity**
  • None
Case Presentation

• Very healthy 18 yo female presented to Urgent Care X 3 with back pain and L >> R leg swelling (Rx NSAID/ Antibx for “strain”)
• 4th presentation to ER with major L>>R swelling. HR 135, no SOB, edema to high thighs L>>R; good pulses and leg function
• CTA aorta with runoff: IVC thrombus to renal veins, extensive occlusive DVT both legs; no masses seen; CTA chest: No PE
• D-Dimer >2500
• Family Hx: 3 maternal aunts/uncles with DVT in 20-30’s
• No other risk factors for DVT
Case Presentation- 2

- Seen by one of my vascular surgeon colleagues
- Angios prone via bilateral popliteal vein vasc US access (shown)
- VS partner crossed from LEFT into IVC; only to RCIV
- EKOS thrombolytic catheters placed; tpa and heparin gtt’s

- VIEW Vascular Surgery ANGIOS....
Patient PRONE

LEFT SFV clot

LEFT iliac veins
(suboptimal images)
RIGHT Iliac vein occlusion  EKOS from LEFT into IVC
Case- continued

- EKOS tpa cath from LEFT popliteal vein to IVC; 2\textsuperscript{nd} EKOS catheter from right popliteal vein into right external iliac vein
- Fibrinogen levels drop to < 100, tpa discontinued, heparin only infused via bilateral EKOS catheters
- VS partner took patient to OR (2\textsuperscript{nd} trip), Zelante Angiojet from R AND L popliteal veins: HEAVY Clot IVC, iliac veins occluded
- EKOS catheters left in place with heparin only
- I was asked to assume care of patient; fibrinogen 222

Thoughts on next steps??
Step 1: Crossing RIGHT CIV to IVC

LEFT SFV somewhat better

Patient still PRONE
Clot in LEFT CFV

LEFT EIV, CIV occluded
RIGHT CIV Thrombus
Extensive IVC Thrombus
LEFT CIV and IVC “protected angio”

IVUS: CLOT IVC; compression of LCIV
IVUS RIGHT: heavy thrombus
Bilateral EKOS with tpa
Case – cont’d after CCL #3; EKOS w/ tpa

- Patient continued with L>R leg edema, tolerated tpa X 24+ hours; ESR normal
- LOTS of discussions with vascular medicine, interventional radiologists, vascular surgery, family, myself
- To cath lab (trip # 4, popliteal sheaths WILL come out after this case).............
Left SFV pretty good..  Clot LCFV, LEV remains occluded
Patient (STILL) Prone

RIGHT SFV good

RIGHT Iliac veins patent with clot

Plan on Cath lab/ OR Trip #4??
Zelante Angiojet to distal LEFT EIV

Zelante to RIGHT EIV
“Final” venograms on CCL/OR Trip #4; pop sheaths OUT

NEXT steps in 18 year old patient??

RIGHT CIV; RCFV OK

LEFT CFV OK; LEIV occluded

IVC Clot
Vascular US  IJ micro-puncture access bilaterally
Large Dilators R IJ
26F Sheath Right IJ
RIGHT Iliac and IVC Clot

IVC Clot
Slowly advancing AngioVac in IVC (from R IJ)
“Cleaning Wire” from Left IJ into RCIV, with AngioVac On

“Cleaning Wire” in IVC with AngioVac on
Cleaning Wire LEIV

Cleaning wire LCIV: NOTE SLOWING

AngioVac ON
More AngioVac in IVC

IVC Improving
Compression of LCIV with distal clot
“Power pulse tpa” and Zelante Angiojet
0.035 IVUS: severe LCIV
Extrinsic compression
May-Thurner measurements and marking
Deploying 20X40 Wallstent
Large PTA
Post- Procedure Outcomes

• Patient treated with Eliquis, Plavix, and aspirin 81 mg
• Aggressive compression wraps to both legs
• Hematology/Oncology consult (family too)
• Seen in 2 weeks with complete resolution: extremely happy, appreciative 18 year old who has resumed schooling (wants to be a nurse) 😊
Attend the conference live from your computer!

November 3-7, 2019
at Wynn Las Vegas, Nevada, USA
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