



INTERVENTIONAL CASE

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Patient Presentation

Chief Complaint: Left lower extremity swelling

History of Present Illness: 32 year old female with no significant PMH who presents with a 1 day history of acute onset, progressive LLE swelling and pain.

Medications: Oral contraception

Family History: No history of thrombophilia, DVT

Social History: Never smoker

Labs, Prior Imaging: CBC and BMP unremarkable, D-Dimer 1134 ng/mL. No prior imaging.

Patient Presentation

Physical Exam:

- Left lower extremity swelling up to the hip
- 3+ pitting edema
- Feet warm and well perfused
- Posterior tibial and dorsalis pedis pulses 2+ bilaterally



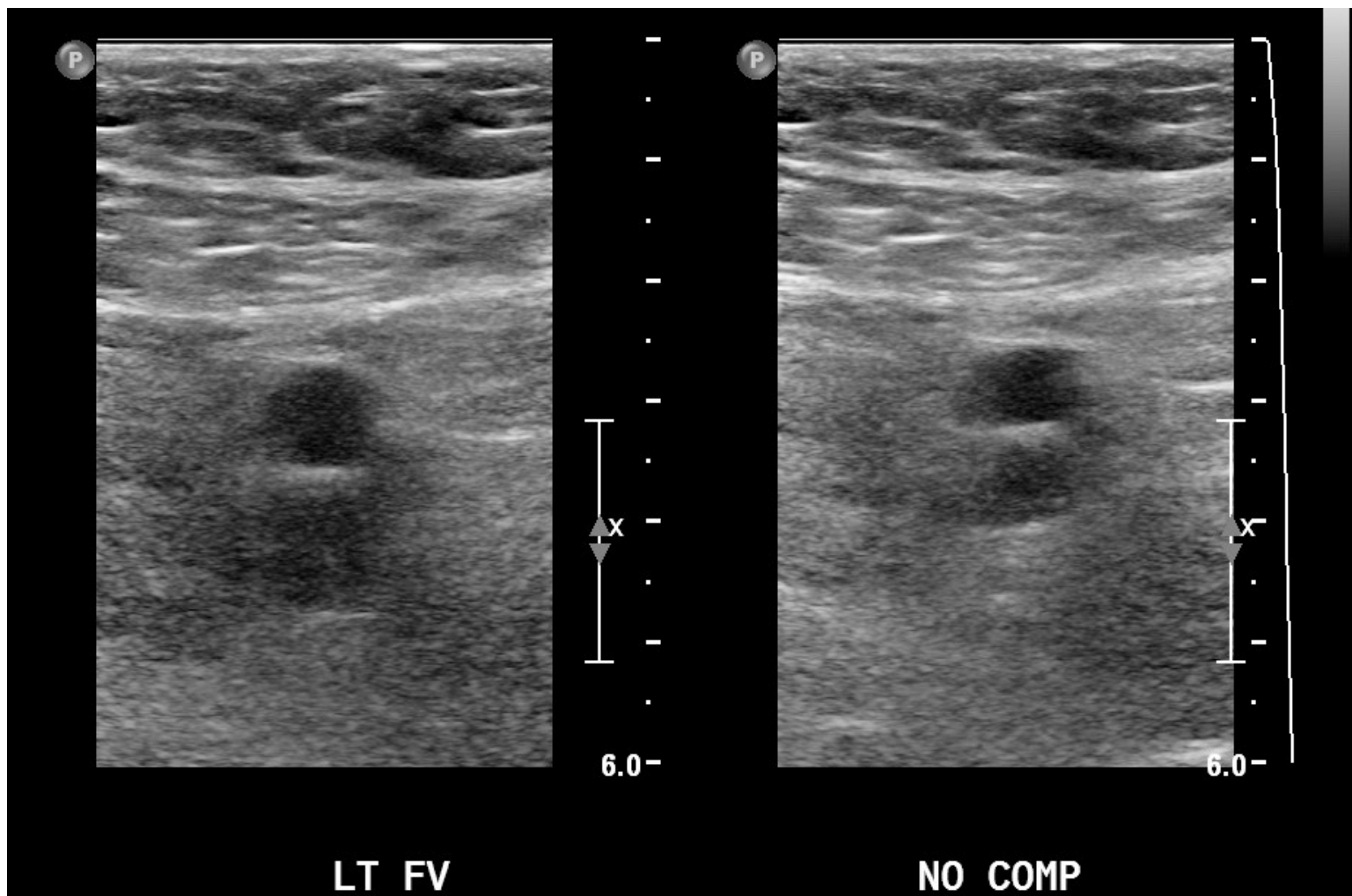
What imaging should we order?

ACR Appropriateness Criteria®

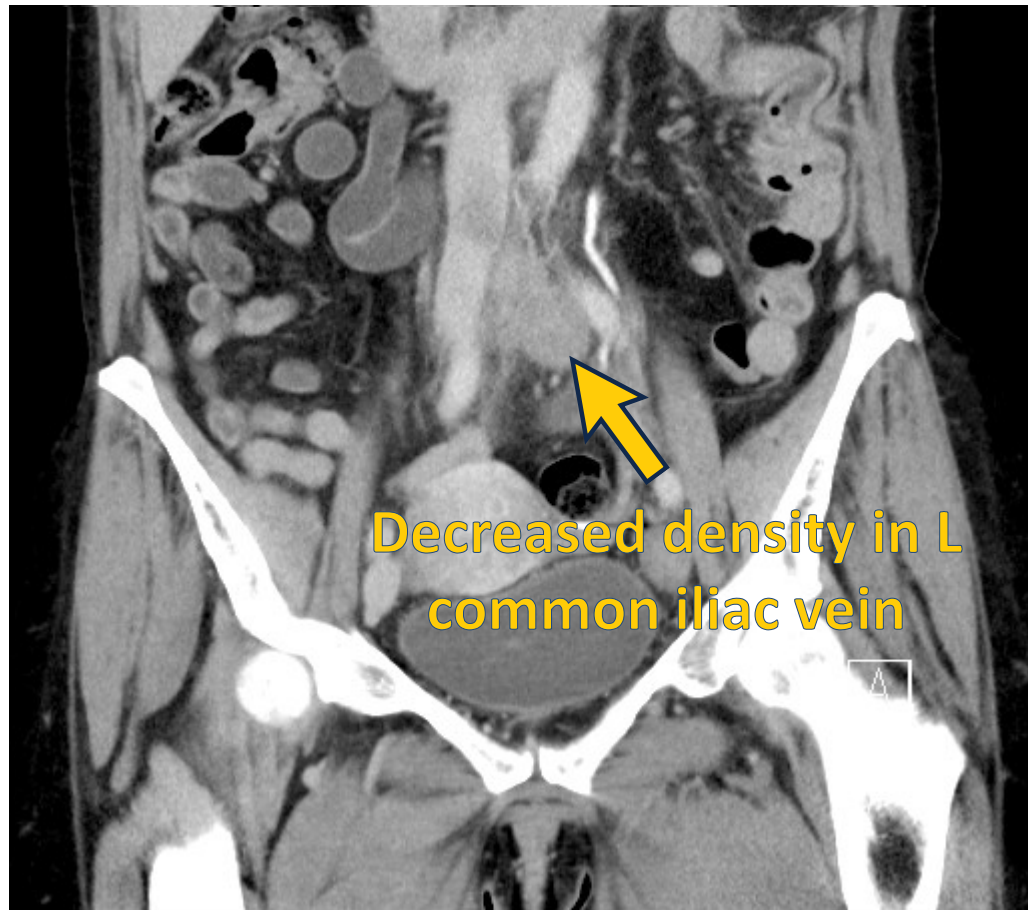
Variant 1: Suspected lower extremity deep vein thrombosis. Initial imaging.

Procedure	Appropriateness Category	Relative Radiation Level
US duplex Doppler lower extremity	Usually Appropriate	○
CT venography lower extremity and pelvis with IV contrast	May Be Appropriate	☢☢☢
MR venography lower extremity and pelvis without and with IV contrast	May Be Appropriate	○
MR venography lower extremity and pelvis without IV contrast	May Be Appropriate	○
Catheter venography pelvis and lower extremity	Usually Not Appropriate	☢☢☢

LE DVUS



CT Venography



Diagnosis?

May-Thurner Syndrome

May-Thurner Syndrome

Pathophysiology

Anatomic variant causing compression of L-CIV by the R-CIA

Stages:

Asymptomatic, chronic L-CIV compression

Chronic pressure causes formation of venous “spurs”

Venous spurs promote thrombus formation, causing DVT

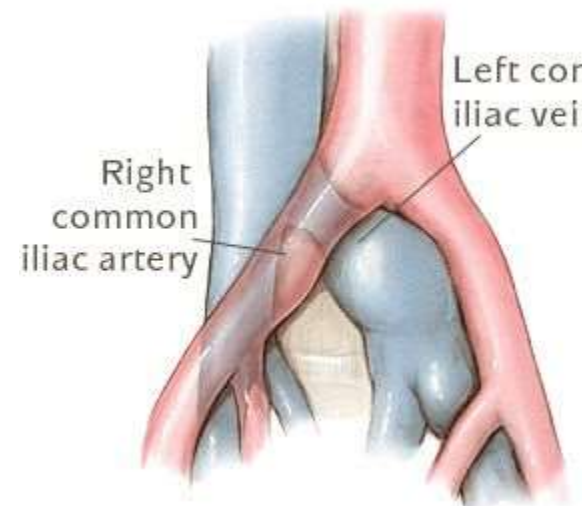
Epidemiology

Present in up to 1/3 of the population based on autopsy studies

Asymptomatic in majority

Causes 2-5% of DVT

DVT from MTS is 2x more common in females



<https://alaskaveinclinic.com/may-thurner-syndr>

Next Steps?

Variant 2: Acute iliofemoral DVT with moderate to severe symptoms present for less than 14 days, otherwise healthy.

Procedure	Appropriateness Category
Anticoagulation alone	Usually Appropriate
CDT/PMT with or without stent placement	Usually Appropriate
Surgical thrombectomy techniques	May Be Appropriate

Chronic from acute DVT [2]. Patients with an underlying anatomic compression syndrome (eg, May-Thurner syndrome) amenable to intervention or surgery generally have this addressed in addition to receiving anticoagulation therapy. There may be differences in the anticoagulation regimens prescribed for patients,

Consult placed to Interventional Radiology

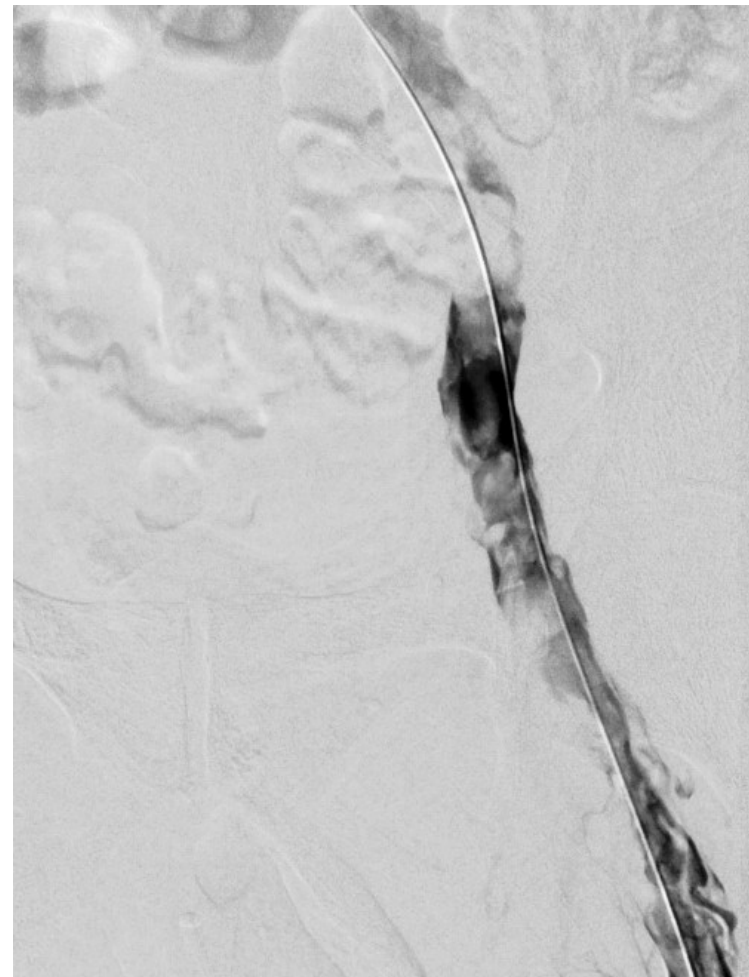
Interventional Radiology, Venogram

Common Iliac Venogram

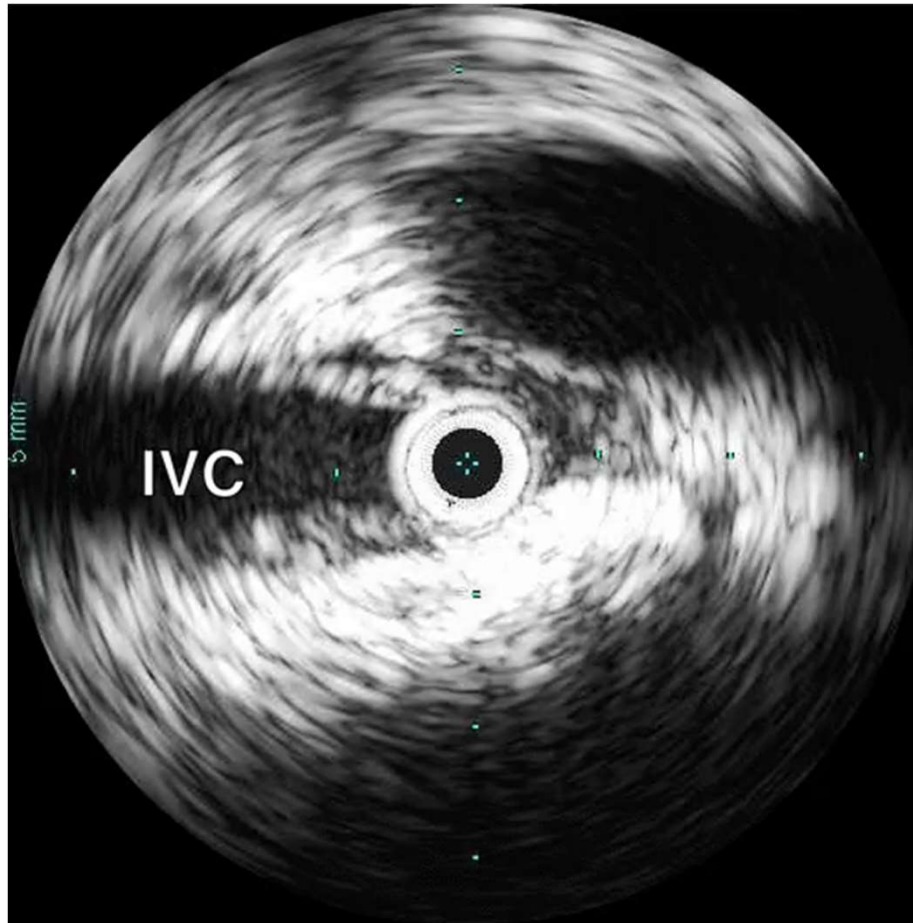
venous access established through the left popliteal vein

ewire advanced from the left popliteal vein into the IVC,
the area of thrombosis

contrast injected through the popliteal sheath to assess the
extent and chronicity of thrombus.



Interventional Radiology, Intravascular Ultrasound



Interventional Radiology, Thrombolysis and Stenting

An AngioJet catheter is advanced over the guidewire, and used to deliver recombinant tPA directly into the clot

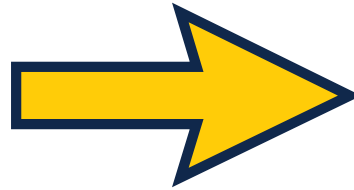
Thirty minutes later, the AngioJet catheter is used to remove any residual clot.

A self-expandable stent is placed in the L-CIV over the area of compression from the R-CIA

Final Venogram performed



Follow-up Visit



References

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