

A Case of Phlegmasia Cerulea Dolens with Compartment Syndrome

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Introduction

Phlegmasia Cerulea Dolens (PCD) is a rare but severe complication of deep vein thrombosis (DVT), characterized by extensive venous thrombosis leading to significant obstruction of venous outflow. This condition predominantly affects the lower extremities and is marked by severe pain, swelling, and a distinctive blue discoloration of the skin due to compromised blood flow (2).

PCD is a vascular emergency that requires prompt diagnosis and intervention to prevent limb loss and potentially life-threatening complications such as venous gangrene and pulmonary embolism. Given its rarity and the severity of its presentation, it is crucial to recognize the signs and symptoms of PCD to ensure timely and effective management. (1).

Case Description

A 60-year-old female with no significant past medical history presented to the emergency department for evaluation of left leg pain, swelling, and redness with concerns for an infection of her leg.

She stated that 4 days prior she tripped over her cat and scraped her lower leg and fell off her porch into some bushes. Since that day it had become increasingly more swollen and painful.

On presentation she was noted to be tachycardic, hypoxemic, and hypothermic with lower extremity coolness, and color changes.



Image 1: The left lower extremity on presentation.

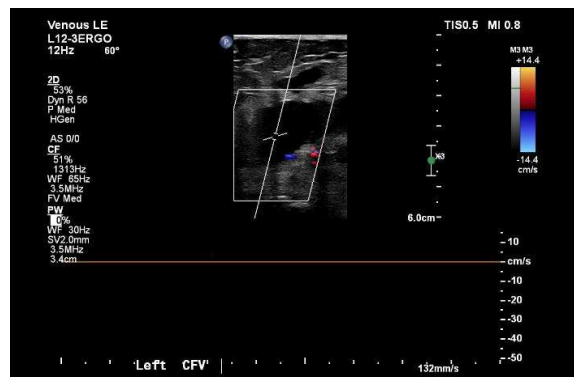


Image 2: Initial doppler US of the left common femoral vein showing almost a completely thrombosed vein.

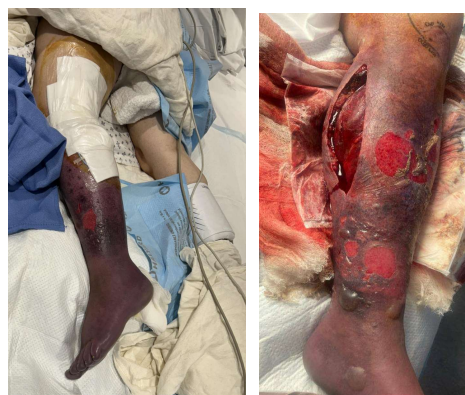


Image 3-4: Pre and post 4 compartment fasciotomy of the left lower extremity.

Clinical Course



Hospital Day 1:

- Left lower extremity US was notable for findings concerning for deep venous thrombosis to the level of the common femoral.
- CTA of the chest was notable for bilateral subsegmental pulmonary embolism.
- On transfer to Cape Fear Valley Medical Center she was admitted to the ICU and placed on a heparin drip
- Underwent formal left lower extremity venogram that was notable for thrombosis from the popliteal vein to just below the IVC.
- At that time, a catheter directed thrombolysis was performed.

Hospital Day 2:

- Early in the morning mechanical thrombectomy was performed.
- Later there was noted to be continuing worsening of color change to the extremity as well as diminishing sensory and motor function. Subsequently a four-compartment fasciotomy was performed.

Hospital Day 3:

- The limb was reevaluated and deemed to be non-viable. The decision was made to perform an above the knee amputation.

Discussion

-Phlegmasia Cerulea Dolens is a result of an acute massive venous thromboembolism. Complications arise when outflow becomes so obstructed that massive fluid sequestration and edema cause collapse of the arterial system and eventual compartment syndrome(3).

-The sequelae of this disease include venous gangrene in 40%-60%, pulmonary embolism in 50% and amputation in 10%-25%. It is most often associated with malignancy or another hypercoagulable state.(4)

-It is an incredibly rare sequelae of severe DVT that can rapidly progress as seen in this case. The importance of this case emphasizes the need for rapid diagnosis to prevent limb and life-threatening complications.

References

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