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Visual Case Discussion

Phlegmasia cerulea dolens

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Phlegmasia cerulea dolens deep venous thrombosis arterial insufficiency fasciotomy

A 38 year old man presented with 1 h of severe right leg pain and swelling. Patient was unable to provide any detail other than “The same thing happened a few months ago when I was locked up. They took me to the hospital and cut my leg open. I went back to jail on Xarelto but I was released 3 weeks ago and I cannot afford the medicine.” Patient was in severe pain, his entire right leg was tense and swollen, dusky and cool. His symptoms rapidly progressed to a cold, numb, pulseless ex-

tremity. No diagnostic studies were performed, given the rapidity of onset of arterial interruption. The patient was anticoagulated and blood flow was restored to the leg with immediate 7- compartment fasciotomy and emergent venous thrombectomy. The patient recovered and was discharged 5 days later with a social services consultation and new prescription for rivaroxaban (Figs. 1–5).

1 <https://doi.org/10.5758/vsi.2016.32.4.201>

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Fig. 1. Phlegmasia cerulea dolens pre-op.



Fig. 2. Phlegmasia cerulea dolens pre-op.



Fig. 4. Intra-operative fasciotomy and thombectomy with re-establishment of blood flow.



Fig. 5. Post-op with re-establishment of blood flow.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:[10.1016/j.visj.2018.12.006](https://doi.org/10.1016/j.visj.2018.12.006).

Questions

1. The initiating pathologic event in phlegmasia cerulea dolens is:
 - a. Acute arterial embolism
 - b. Acute deep venous thrombosis
 - c. Compartment syndrome
 - d. Hypothermic thermal injury
 - e. Local infection and sepsis
2. Primary treatment for phlegmasia cerulea dolens include all of the following except:
 - a. Catheter-directed thrombolysis
 - b. High-dose heparin infusion
 - c. Surgical thrombectomy
 - d. Amputation
 - e. Fasciotomy

Answers

1. Acute deep venous thrombosis. Explanation: Phlegmasia cerulea dolens (blue, painful, leg) is a rare complication of deep venous thrombosis. Extensive venous thrombosis and obstruction leads to increased interstitial tissue pressure, interruption of capillary blood flow, tissue ischemia and gangrene. Mortality rates range from 20% to 41% and amputation rates among survivors range from 12% to 50%. Reference: Yang SS, Yun WS. Surgical thrombectomy for phlegmasia cerulea dolens. *Vasc Specialist Int*. 2016 Dec;32(4):201-204.
2. Amputation. Explanation: Amputation is failure of medical and surgical relief of venous hypertension and re-establishment of arterial blood supply. Amputation may be necessary if gangrene has established and the patient's life is in jeopardy but all other medical and surgical options should be exhausted. Reference: Sarwar S, Narra S, Munir A. Phlegmasia cerulea dolens. *Texas Heart Inst J*. 2009;36(1):76-77.