

Reviewing Controversial Guidelines for Distal Deep Vein Thrombosis Monitoring and Treatments



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Case Description

- A 67 year-old female was initially admitted to the intensive care unit for respiratory failure secondary to pneumonia that required intubation.
- During her hospitalization, she was found to have an acute right distal deep vein thrombosis (DVT) of her gastrocnemius vein on vascular duplex study.
- She also was found to have acute infarcts in multiple areas of her brain, including the left precentral gyrus that had a foci of hemorrhage,
- An inferior vena cava filter was placed and Hematology was consulted. They recommended against systemic anticoagulation given the brain bleed and the DVT being distal.
- Once medically stable, she was transferred to inpatient rehabilitation where she was to undergo serial vascular duplex scans for DVT monitoring.

Isolated Distal DVT

- Defined as a DVT below the knee without extension to proximal veins or pulmonary embolism (PE)
- Account for up to 50% of all lower limb DVTs
- Data is limited, but distal DVTs appear to have a much lower embolic potential versus proximal clots, which are clearly recognized as having high embolic tendency
- If proximal propagation is to occur, 2 weeks is an often referenced time frame.
- Testing, like D-dimer and compression ultrasound (CUS), are less sensitive and specific for distal DVTs compared to when diagnosing proximal DVTs
- More often associated with transient provoking factors (like surgery, trauma to lower limb, hospitalization)

Discussion

- The monitoring and treatment for distal DVTs can be controversial compared to proximal DVTs in terms of risk for progression and the development of pulmonary embolism.
- The question has been proposed of whether there is a need to treat distal DVTs with systemic anticoagulation (usually a 3 month course if provoked). However, an alternative for management includes conservative monitoring with serial ultrasounds. Symptomatic patients may also benefit from elastic compression stockings.
- Higher risks patients may be excluded from a conservative option, with documented higher risk for proximal propagation and PE. These include patients who:
 - Have underlying cancer
 - Are inpatient
 - Have a history of a previous venous thromboembolism
 - Have a D-dimer level $>8\mu\text{g/mL}$
 - Have an unprovoked DVT
 - Have extensive thrombosis (>5 cm in length, involving multiple veins, >7 mm in maximum diameter)
 - Have thrombosis close to proximal vein

Management

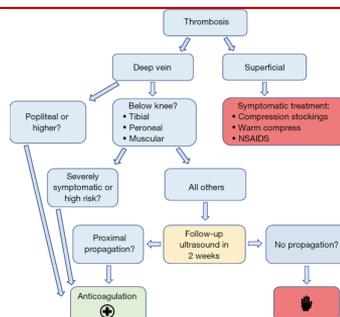


Fig. 1. Algorithm for management of DVT based on the 2012 CHEST guidelines. Source: Fleck, Drew, Hassan, Alabazai, Alsaif, Grace, Kuvshinov, Solimani, Nishi, & Ezzamel. (2012). "Isolated distal deep vein thrombosis (DVT): Etiology and treatment patterns." *Contemporary Diagnosis and Therapy*. Elsevier, 1-3. DOI: 10.1016/j.cdt.2012.06.001

Treatment

Our patient:

- Underwent serial vascular duplex scans (ordered weekly)
 - The distal DVT remained stable on scans without proximal progression, and the scans ultimately showed resolution of the DVT around 6 weeks after the initial diagnosis
- When examining results between treatments:
- Extension rate of distal DVT up to 15%
 - Anticoagulation was associated with major bleeding in 0-2% of cases
 - Anticoagulation was not necessarily related to a reduction in adverse outcomes

Conclusions

- Despite this patient being at higher risk for propagation of her distal DVT, her serial duplex studies showed stability and eventual resolution, pondering the question of whether she needed to be exposed to the procedural risks of IVC filter placement and later retrieval in the first place.
- Patients that may be appropriate for a less aggressive treatment approach have attempted to be identified. However, more studies, especially randomized trials comparing treatments, are needed to establish clear guidelines for the treatment of distal DVTs.

References

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