A 55 year old male with a PMH of HTN, DM2, and HLD, presented to clinic with acute onset of right leg pain, swelling, and redness for 2 days. On examination, he has unilateral 2+ pitting edema and tenderness to palpation. His D-dimer was positive at 702 ng/ml, however, lower extremity doppler ultrasound (U/S) was negative for DVT. He was sent home. 45 days later, he presented with dyspnea and was found to have a pulmonary embolism (PE).

Methods

• PubMed database search for articles published from January 1970-March 2012 was conducted for this literature review.

• Objectives are to aid the primary care provider in determining what is the best method of care for patients with a negative initial negative US of the lower extremity.

Conclusions

• Best evidence for the outpatient setting is to first perform pretest probability testing, then if:
  - Low probability→ only D-dimer, if - , can safely exclude DVT®
  - Moderate-high probability→ Doppler U/S
  - Repeat U/S depends on whether initial U/S was 2-point vs. whole-leg U/S
  - Combined VTE event rate at 3 mo’s was 0.57%6 (0.2-2.1%11)
  - Withholding anticoagulation following a single negative whole-leg U/S was associated with a low risk of VTE during 3-month follow up in a meta-analysis by Johnson et al. in 2010.10,11,17

• Limitations: This project was not a meta-analysis.

• Return to case: Patient had moderate pretest probability, positive D-dimer, and negative whole-leg U/S. Unlikely to have benefit from empiric anticoagulation. He just happens to be unlucky few who develop PE within a 3-month period despite having negative U/S.

References


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