

Algorithm(s)

Diagnosis algorithms were updated to account for use of the Pulmonary Embolism Rule-out Criteria (PERC) rule.

Annotations

- 10 Elaborated on effectiveness of the short-term use of compression stockings for calf deep vein thrombosis: a clinical trial found low-molecular-weight heparin with stockings does not improve outcomes compared to the use of compression stockings alone. (Schwarz, 2010)
- 14 Added reference to substantiate the claim that troponin and BNP elevation are associated with increased mortality. (Jaff, 2011)
- 16 Language stating that prediction rules other than Wells' clinical pretest probability scoring have not been proven superior to Wells'. (Douma, 2011; Fesmire, 2011)

Computerized decision support systems used in the Emergency Room can improve the diagnosis of pulmonary embolism (PE). (Drescher, 2010)
- 18 The Pulmonary Embolism Rule-Out Criteria (PERC) rule is to be used only if the clinical pretest probability score is less than or equal to four, which captures patients in the very unlikely category per the Wells scoring system.
- 19 Introduced the notion of Pulmonary Embolism Rule-Out Criteria, which is applied to avoid imaging studies on the patients who are at very low risk of PE, and leverages history, physical examination, and PERC scoring to rule out PE. Added a listing of eight questions, if any one of which is answered yes, evaluates the patient to be PERC positive. (Carpenter, 2008; Dachs, 2010; Fesmire 2011; Hugli, 2011; Kline, 2004; Kline 2008 b; Wolf, 2008)
20. The likelihood of PE is less than 2% if clinician's judgement indicates low likelihood and the clinical pretest probability scoring result is low and the PERC negative. (Kline, 2004; Kline 2008b; Fesmire, 2011)
21. Added Gimber, 2009, in support of the clinician withholding anticoagulation if patient's Wells' prediction is less likely and D-dimer level negative. (Gimber, 2009)

22. Lucassen, 2011, was cited to withhold anticoagulation and follow patients clinically if D-dimer and pretest probability scoring is less likely. (Lucassen, 2011)
26. Leading with a duplex ultrasound as the initial study to evaluate for PE, determinations could be made in only 13% of cases and it is better at diagnosing Deep Vein Thrombosis (DVT) of lower extremities. (Salaun, 2011)
30. Low-molecular-weight heparin may be preferred if patient has underlying cancer. (Akl, 2011a; Akl 2011b)
32. Home management may be preferable for some patients, and cost-effective. (Othieno, 2011)

Some patients with symptomatic PE may be treated as outpatients. (Aujesky, 2011; Erkens, 2011)

Use shared decision-making with patients to choose a course of care consistent with patient values, preferences and best medical evidence.

38. Male gender might increase risk of VTE only when VTE is unprovoked (Boutitie, 2011; Douketis, 2011)

The absolute risk of VTE recurring in a patient decreases after s/he is appropriately anticoagulated, but patient's bleeding risk is unchanged by said treatment. (Carrier, 2010; Hutten, 2006)

After anticoagulation therapy has ended, if a patient has an abnormal D-dimer result, s/he will have a high rate of recurrence and it is not affected by the timing of the D-dimer testing, age or assay cut-off point. (Douketis, 2010)

One meta-analysis found that residual vein obstruction did not correlate to increased risk if the patient had unprovoked clot after anticoagulation therapy. It also found that residual venous obstruction was not associated with recurrent VTE if anticoagulation is stopped. (Carrier, 2011)

Evidence does not support routine thrombophilia testing on patients after a VTE. (Cohn, 2009)

Appendices

Appendix D, Diagnosis and Treatment of Upper Extremity Deep Vein Thrombosis, was updated with statistics to support statements already made previously. (Mai, 2011; Levy, 2011; Kucher, 2011)

Added Appendix E, ICSI Shared Decision Making-Model.

Aims & Measures

Aims were updated for applicability.