

Use of the D-dimer Test

Authors

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Background

D-dimer is a terminal degradation product of cross-linked fibrin that can be easily quantified in the laboratory and may be assessed in venous thrombosis and disseminated intravascular coagulopathy. D-dimer may also be elevated in other situations such as pregnancy, cancer, inflammation and post-operatively.¹

Scope

D-dimer testing in adults in hospitals in the Republic of Ireland.

Key recommendation

Do not use D-dimer as a screening test in all patients with suspected deep vein thrombosis (DVT) / pulmonary embolism (PE). Restrict initial D-dimer testing in suspected DVT / PE to patients with low clinical probability of DVT / PE.

Epidemiology

D-dimer is a commonly requested test. For example, in Tallaght Hospital during 2014, 3,699 requests for D-dimer testing were received. The majority (59%) of the requests were sent from the emergency department.

Testing

Who to test

- Patients with a low clinical probability of venous thromboembolism after assessment of the clinical probability score, e.g.
 - Well's score less than 2 for deep vein thrombosis²⁻⁴.
 - Well's score of less than or equal to 4 for pulmonary embolism³⁻⁶.
- Patients with clinically suspected deep vein thrombosis with a high clinical probability score and negative imaging studies,³
- Planning duration of anticoagulation in selected patients,⁷
- Diagnosis and monitoring of disseminated intravascular coagulation.⁸

Who not to test

Do not test initially in patients with higher clinical probability scores as they require imaging to assess for venous thrombosis regardless of D-dimer result.²⁻⁶

Do not test in upper limb DVT as the utility of D-dimer has not been confirmed in this group.³

How to test

Sample type: sodium citrate bottle.

Clinical details on request form should include indication for test and clinical probability score if used for acute DVT / PE.

The test should be performed on a quantitative assay and the result reported in SI units, fibrin D-dimer DDU ($\mu\text{g/L}$) or fibrin D-dimer FEU ($\mu\text{g/L}$). When used for DVT / PE exclusion, the test should be validated for this purpose and have adequate sensitivity and negative predictive value.⁹

References

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