Prolonged Clot Time Reflex Panel

Clotting time tests such as prothrombin time (PT) and/or activated partial thromboplastin time (aPTT) are commonly used for a variety of reasons, including workup of a bleeding tendency, as part of a presurgical evaluation, as guidance for blood product replacement, or to monitor anticoagulant medication. Prevalence of prolonged clotting time varies depending on the setting and on patient- and laboratory-specific factors. Prolonged clotting times of unclear etiology may require further evaluation to determine cause and to exclude clinically significant bleeding disorders. The Prolonged Clot Time Reflex Panel provides a comprehensive workup to determine the etiology of prolonged clotting times, including lupus anticoagulants and factor deficiencies or inhibitors. In rare circumstances in which a definitive cause for prolonged clotting time is not identified by testing available within the panel, appropriate follow-up testing will be recommended in the customized panel interpretation.

Typical Testing Strategy

Based on the patterns observed in this reflex test, additional studies may be recommended by ARUP Hemostasis/Thrombosis medical directors, such as coagulation factor assays and von Willebrand factor testing.

Disease Overview

Symptoms

Symptoms associated with prolonged clotting times depend on the underlying etiology.

- Patients with a lupus anticoagulant (LA):
  - May be asymptomatic or may have elevated thrombotic risk (if LA is associated with antiphospholipid syndrome)
  - Generally are not at increased risk for bleeding
- Patients with a factor deficiency or inhibitor are at increased risk for bleeding

Diagnostic Issues

- This reflexive panel was designed to evaluate prolonged clotting times (PT and/or PTT), particularly in presurgical or other settings where there is not strong clinical or other laboratory evidence that suggests a specific coagulation disorder.
Panel benefits include
- Greater standardization and cost-effectiveness in the assessment of prolonged clotting times
- More timely diagnosis, avoiding multiple rounds of testing and multiple phlebotomies for the patient
- Expert interpretation by medical directors supervising the lab performing the testing

A patient history form submitted with the test order allows for optimal panel interpretation and correlation with the clinical setting
Patients with a known coagulation disorder or strong clinical or other laboratory evidence of a specific coagulation disorder (such as a clear bleeding presentation), should be offered condition-specific testing

Physiology
- Clotting times tests, such as PT and/or PTT, enable evaluation of coagulation reactions and are dependent on\(^1\):
  - The presence and function of coagulation factors, including fibrinogen
  - Phospholipid support for the coagulation reactions
  - Calcium availability (affected by specimen collection tube/anticoagulant)
- Problems with any of these components can result in clotting time prolongation

Test Interpretation

Results
- Reflexive test selection and panel interpretation by ARUP Hemostasis/Thrombosis medical directors
- Customized panel interpretation includes the clinical significance of any abnormalities identified and recommendations for follow-up testing, if indicated
- Reference intervals will be provided for each test performed, including age-stratified reference intervals, when appropriate

Limitations
- Anticoagulant medications may interfere with testing and cause erroneous results\(^2\)
- Recent transfusion or factor replacement may affect results
- Results may be inaccurate in the event of inappropriate specimen collection and handling
  - Clotted specimens (serum specimen or traumatic venipuncture)
  - Line draws (specimen may be contaminated with heparin or IV fluids)
  - Incorrect anticoagulant (anything other than sodium citrate plasma)

References

Related Information
- Hemophilia – Factor VIII or IX Deficiency
- Prolonged Clotting Time Evaluation
- Uncommon Factor Deficiencies
- Von Willebrand Disease - VWD