Blood Clotting Profile – [Whole Blood] Analysis

Objective

The objective of this test is to evaluate the blood clotting profile using whole blood. This profile includes tests such as prothrombin time (PT), activated partial thromboplastin time (APTT), bleeding time, clotting time, and platelet count to assess hemostatic function and detect bleeding or thrombotic disorders.

Materials and Methods

Materials:
- Whole blood sample from patient
- Citrated tubes for coagulation tests
- Coagulation analyzer or manual setup
- Reagents for PT, APTT, and platelet count
- Sterile lancets and filter paper (for bleeding time)

Methods:
1. Sample Collection: Collect venous blood using appropriate anticoagulants (e.g., sodium citrate).
2. Prothrombin Time (PT): Measure extrinsic pathway activity.
3. Activated Partial Thromboplastin Time (APTT): Assess intrinsic pathway activity.
4. Bleeding and Clotting Time: Perform bedside tests to assess platelet function and clot formation.
5. Platelet Count: Evaluate platelet quantity using hematology analyzer.
6. Interpretation: Integrate results to detect coagulopathies or monitor anticoagulant therapy.

Results

- Normal PT: 11–15 seconds
- Normal APTT: 25–35 seconds
- Normal bleeding time: 2–7 minutes
- Normal clotting time: 5–15 minutes
- Platelet count: 150,000–450,000/µL
- Abnormal results: Suggest bleeding disorders, liver dysfunction, vitamin K deficiency, or anticoagulant therapy effects

Conclusion

Blood clotting profile testing provides a comprehensive evaluation of hemostatic function. It is crucial for diagnosing bleeding disorders, monitoring anticoagulant therapy, and assessing pre-surgical coagulation status. Abnormal results should be correlated with clinical findings and additional factor assays.