Clot Retraction—Blood

Norm.

30–60 minutes for beginning of retraction; 1–2 hours for partial clot retraction; 6–24 hours for complete clot retraction.

Increased.

Not applicable.

Decreased.

Anemia (aplastic), disseminated intravascular coagulation (DIC), factor XIII deficiency, fibrinogen deficiency, fibrinolytic activity (increased), Glanzmann's thrombasthenia, Hodgkin's disease, hyperfibrinogenemia, hypofibrinogenemia, idiopathic thrombocytopenia purpura, leukemia (acute), multiple myeloma, platelet deficiency, platelet dysfunction, polycythemia vera, and thrombocytopenia purpura (secondary).

Description.

A test performed on whole blood that determines the length of time required for firm clot formation by platelets and fibrinogen. Clot retraction decreases clot size during formation of the hemostatic plug. Test results indicate platelet and fibrinogen quantity and function. This test is rarely used.

Professional Considerations

Consent form NOT required.

Preparation

1. Tube: Red topped, red/gray topped, or gold topped.

Procedure

1. Collect and discard 3 mL of blood, leaving the needle in place in the vein.
2. Attach a fresh syringe and collect 4–10 mL of blood.
3. Observe the tube for clotting. When a clot has formed, observe after 2, 6, 12, and 24 hours for retraction from the walls of the test tubes and record the findings as no retraction, partial retraction, or complete retraction; time taken for beginning retraction; and complete retraction; clot consistency; amount of serum surrounding clot; and serum cell volume.

Postprocedure Care

1. Observe for bleeding from the venipuncture site for 15 minutes if the client has a known coagulopathy.

Client and Family Teaching

1. Results are normally available within 24–48 hours.

Factors That Affect Results

1. Hemolysis invalidates results. Reject hemolyzed specimens.

2. Plastic test tubes prolong the test results.

3. Low platelet count, aspirin therapy, increased fibrinolysis, and hypofibrinogenemia will result in abnormal clot retraction. Drugs that interfere include c7E3\Fab and recombinant activated factor VII (rFVIIa).

4. In DIC, afibrinogenemia, and severe hemophilic state, clot formation may not occur.

Other Data

1. This test is only a measure of platelet function and is now considered useful mainly in the diagnosis of Glanzmann's thrombasthenia.