Norm.

Quantitative is 200–400 mg/dL (2.0–4.0 g/L, SI units).

Lower values can occur in newborns.

Increased.

Arthritis (rheumatoid), familial paroxysmal peritonitis (familial Mediterranean fever, periodic disease), hepatitis, infection (acute), and menstruation.

Decreased.

Abortion (septic, missed), anemia (acquired hemolytic), burns (severe), carcinoma (prostate, lung, metastasis), circulating fibrinogen inhibitors, cirrhosis, coagulation factor deficiency, congenital fibrinogen disorders (afibrinogenemia, hypofibrinogenemia, dysfibrinogenemia), cryoglobulinemia, disseminated intravascular coagulation (DIC), eclampsia, embolism (amniotic fluid, fat, meconium), leukemia, lymphoma, macroglobulinemia, multiple myeloma, septicemia, shock, snakebite, thrombotic thrombocytopenic purpura, transfusion reaction, and trauma. Drugs include asparaginase, bezafibrate, perindopril, phenobarbital drug poisoning, streptokinase, ticlopidine, and urokinase. Elevation slows or stops with the administration of glycoprotein IIB/IIIA inhibitors.

Description.

Fibrinogen (factor I) is a heat-stable, complex polypeptide that converts to the insoluble polymer of fibrin after thrombin enzymatic action and combines with platelets to clot the blood. Synthesized in the liver, fibrinogen increases in diseases associated with tissue damage or inflammation. There is some evidence that it may be useful as a predictor of arteriosclerotic disease. One performs this test by adding thrombin to the client's plasma and measuring the amount of time taken for clotting to occur at standard dilutions. The amount of fibrin is then calculated based on the thrombin clotting time.

Professional Considerations

Consent form NOT required.

Preparation

1. Tube: 2.7- or 4.5-mL blue topped.

Procedure

1. Withdraw 2 mL of blood into a syringe or vacuum tube. Remove the syringe or tube, leaving the needle in place. Attach a second syringe and draw two blood samples, one in a citrated blue-topped tube and the other in a control tube. The sample quantity should be 2.4 mL for a 2.7-mL tube and 4.0 mL for a 4.5-mL tube. Draw a 5-mL blood sample in a sodium citrate–anticoagulated blue-topped tube.

Postprocedure Care

1. For clients with coagulopathy, hold pressure over sampling site for at least 5 minutes and observe site closely for development of a hematoma.

2. Transport the specimens to the laboratory immediately for spinning. The specimens are then stable for 3 days when refrigerated.

Client and Family Teaching

1. Seek medical attention for signs of bleeding (that is, hematoma, bleeding of gums, wounds, petechiae, confusion, changing level of consciousness).

Factors That Affect Results

1. Reject hemolyzed specimens or tubes partially filled with blood.

Other Data

1. Active bleeding or administration of a blood transfusion within 1 month before the test invalidates results.
2. Normally a prothrombin time and an activated partial thromboplastin time can also be performed on this specimen.
3. See also Activated partial thromboplastin time and thromboplastin time—Plasma .