

severe viral infections). The hallmarks of this disorder are bleeding and clotting that occurs simultaneously.

Pathophysiology

DIC occurs when the first stage of the coagulation process is abnormally stimulated. Although no well-defined sequence of events occurs, two distinct phases can be identified. First, when the clotting mechanism is triggered in the circulation, thrombin is generated in greater amounts than can be neutralized by the body. Consequently, there is rapid conversion of fibrinogen to fibrin, with aggregation and destruction of platelets. Local and widespread fibrin deposition occurs in blood vessels that causes obstruction of blood flow with eventual necrosis of tissues. Concurrently, the fibrinolytic mechanism is activated, which causes extensive destruction of clotting factors. With a deficiency of clotting factors, the child is vulnerable to uncontrollable hemorrhage into vital organs. An additional complication is damage and hemolysis of RBCs.

Diagnostic Evaluation

DIC is suspected when the patient has an increased tendency to bleed ([Box 24-8](#)). Hematologic findings include prolonged prothrombin time, PTT, thrombin time, and increased D-dimer antigen (byproduct of fibrinolytic process). There is a profoundly depressed platelet count, fragmented RBCs, and depleted fibrinogen.

Box 24-8

Clinical Manifestations of Disseminated Intravascular Coagulation

Petechiae

Purpura

Bleeding from openings in the skin