

of fibrinogen and coagulation factors with FFP, with cryoprecipitate or fibrinogen concentrate as a source of fibrinogen, are indicated with amounts determined by the degree of abnormal PT, aPTT, and fibrinogen levels, as well as severity of bleeding or bleeding risk with invasive procedures. For these situations, fibrinogen level should be maintained at >150 mg/dL and PT prolonged no more than 3 s above the upper limit of normal. Vitamin K should be given. Patients should be frequently monitored, and transfusion support adjusted as the patient's condition changes and dictates.

REPLACEMENT OF COAGULATION OR FIBRINOLYSIS INHIBITORS

Anticoagulants such as heparin, antithrombin III (ATIII), and thrombomodulin concentrates, and antifibrinolytic drugs have all been tried in the treatment of DIC. Low doses of continuous-infusion heparin (5–10 U/kg per h) may be effective in patients with low-grade DIC associated with solid tumors, acute promyelocytic leukemia, or in a setting with recognized thrombosis. Heparin is also indicated for the treatment of purpura fulminans, during the surgical resection of giant hemangiomas, and during removal of a dead fetus. In acute hemorrhagic DIC, the use of heparin is likely to aggravate bleeding. The use of heparin in patients with severe DIC, although demonstrating improved coagulation parameters, has not had a survival benefit; professional society recommendations for use vary widely. Although the use of concentrates of the serine protease inhibitors, antithrombin and thrombomodulin, for sepsis demonstrated little efficacy in all treated patients, post hoc analyses of those with sepsis and confirmed DIC suggest a survival advantage and require further study. Activated protein C treatment for septic shock was withdrawn from the market years ago as findings in clinical practice did not replicate the mortality advantage seen in the clinical trial; impact on DIC was not evaluated.

In patients who have DIC characterized by a primary hyperfibrinolytic state with concomitant severe bleeding, the administration of antifibrinolytics may be considered. However, concern for increasing the risk of thrombosis has led to consideration of concomitant use of heparin. Patients with acute