

Summary of the article:

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Transfusion of Blood and Blood Products: Indications and Complications

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The article discusses the indications for blood transfusions and blood product use, as well as the associated complications. It outlines the appropriate use of red blood cells (RBCs), plasma, platelets, and cryoprecipitate in various clinical scenarios. The indications for transfusion include symptomatic anemia, acute sickle cell crisis, acute blood loss, and reversal of anticoagulant effects. The article also highlights the importance of adhering to evidence-based guidelines, such as using a restrictive transfusion strategy in critically ill patients. Additionally, it addresses common noninfectious complications of transfusion, including acute hemolytic reactions, allergic reactions, and transfusion-related acute lung injury (TRALI), among others.

Key Points:

Indications for Transfusion: Transfusions are indicated for symptomatic anemia, acute sickle cell crisis, acute blood loss, and reversal of anticoagulant effects.

RBC Transfusion Strategy: A restrictive transfusion strategy is recommended in critically ill patients, with a target hemoglobin level of 7 to 9 g per dL.

Plasma Transfusion: Plasma is indicated in patients with an INR greater than 1.6 with active bleeding or before invasive procedures in anticoagulated patients.

Platelet Transfusion: Platelets are used to prevent hemorrhage in patients with thrombocytopenia or platelet function defects.

Cryoprecipitate Use: Cryoprecipitate is utilized in cases of hypofibrinogenemia, typically occurring in massive hemorrhage or consumptive coagulopathy.

Complications: Acute complications of transfusion include acute hemolytic reactions, allergic reactions, and Transfusion-related acute lung injury (TRALI). Delayed complications include Transfusion-Associated Graft-Versus-Host Disease (TA-GVHD) and transfusion-related immunomodulation.

Preventive Measures: Strategies such as leukoreduction and gamma irradiation of blood products can help prevent certain complications, such as febrile nonhemolytic reactions and TA-GVHD.

Evidence-Based Practice: Adhering to evidence-based guidelines is crucial for optimizing transfusion practices and improving patient outcomes.