New York State Council on Human Blood and Transfusion Services*
and
New York State Board for Nursing†

TRANSFUSION REACTION

RESPONSE GUIDE

A Companion Reference To Guidelines For

Monitoring Transfusion Recipients

First Edition
2008

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Appendix A
Transfusion Reaction Response Guide

Acute Reactions

Symptoms/Signs	Possible Etiology	Actions
• Local erythema • Hives • Itching • Flushing	These symptoms/signs are related to a mild **allergic reaction** to plasma proteins	• Stop infusion • Maintain IV line with normal saline at a "keep vein open" rate • Notify physician or other provider • Reconfirm patient and unit identification to verify that the correct unit is being given to the intended recipient • Administer diphenhydramine (Benadryl), if ordered • Notify the Blood Bank; no specimen need be sent • If symptoms resolve, the physician or other provider may decide to restart the transfusion after treatment • Monitor closely for any further signs or symptoms • Document the reaction in the patient's chart as per institution policy
• Chills • Fever - 1°C/2°F or more increase in temperature up to 4 hours after the transfusion • Flushing • Restlessness * * * * * * * * * • Chest pain or pressure • Lower back pain • Dyspnea • Tachycardia • Nausea/vomiting • Diarrhea • Hypotension • Shock • Wheezing • Throat tightness • Rigors • Wine- or cola-colored urine • Pain at the infusion site • Unexplained bleeding from mucous membranes or infusion site	These symptoms/signs may be due to a **febrile, nonhemolytic reaction** related to infused white blood cells or cytokines, or may be the initial presentation of a more serious **acute hemolytic reaction** or **sepsis** * * * * * * * * * These symptoms/signs may be related to **fluid overload, acute hemolysis**, **sepsis**, **anaphylaxis**, or **transfusion-related acute lung injury (TRALI)**	• Stop infusion • Maintain IV line with normal saline at a "keep vein open" rate • Notify physician or other provider • Reconfirm patient and unit identification to verify that the correct unit is being given to the intended recipient • Notify the Blood Bank; collect a type and screen specimen and a first post-transfusion urine specimen. Send these along with the remaining blood unit and administration set, with attached solutions, to the laboratory unless otherwise instructed • Do not initiate another transfusion without Blood Bank consultation • Document the reaction in the patient's chart as per institution policy

Delayed Reactions

Observation of the symptoms/signs below in the days following a transfusion, if not explained by the patient's medical condition, may merit being brought to the attention of a physician or other provider.

Clinical Presentation	Possible Etiology
• Fever • Rash • Elevated liver function tests • Watery diarrhea • Symptoms/signs may occur from several days to a month after transfusion • Rapid progression to death with virtually 100% mortality	These symptoms/signs may be caused by **graft-vs-host disease**, which can arise if HLA-incompatible donor T-lymphocytes attack recipient tissues.
• Fall in hemoglobin and hematocrit • Fever • Jaundice • ↑ Lactate dehydrogenase (LDH) • Typically occurs 3-7 days after transfusion, but may occur 14 days or more after transfusion • Often, patient is asymptomatic • Direct antiglobulin test (DAT) may be positive and an antibody not detected prior to the transfusion may be identified	These symptoms/signs may be caused by a **delayed hemolytic reaction**, which is due to an antibody, developed as a result of pregnancy or a transfusion in the past, when the antibody is of low enough titer so as to be undetectable at the time of a recent transfusion, but has intensified as a result of the transfusion (an anamnestic response).
• Thrombocytopenia, often severe, occurring with an abrupt onset, generally 1-2 weeks after a transfusion • Melena • Hematuria • Vaginal bleeding • Occurs most commonly in multiparous women • Usually self-limited, but severe bleeding may occur and can be fatal (*e.g.,* intracranial bleeding)	These symptoms/signs may be caused by **posttransfusion purpura**, in which antibodies stimulated by a recent transfusion (usually of red blood cells or platelets) destroy platelets in a patient who has made an antibody against a foreign platelet antigen as a result of pregnancy or a previous transfusion.