

Practical Problems in Transfusion Medicine **Transfusion Therapy Case Study 2**

Part 2: Additional Information and Further Studies

The hematologist informs you that the patient is not bleeding, has a low grade fever, has a palpable tip of the spleen just under the left costal margin, and is on broad spectrum antibiotic coverage. A review of recent platelet counts reveals that prior to each transfusion the count was less than 10,000/ μ L. Immediately prior to transfusion yesterday the count was 2000/ μ L and a CBC drawn immediately following the transfusion revealed a count of 14,000/ μ L. Her hematocrit is 26% and has remained stable, her total white cell count is 200/ μ L, and both her coagulation profile and chemistry studies are normal. In addition, she has four children and has never received blood products prior to her current hospitalization.

- What is the probable cause of her non-response to platelet transfusions?
- What advice regarding transfusion support and/or other therapies would you give the clinician?
- What further laboratory testing might be appropriate to facilitate transfusion management?
- If the patient begins bleeding in the immediate future, is there anything that you would suggest be done?

Causes of Platelet Refractoriness

Poor platelet survival is commonly caused by immune destruction, especially in multiparous females, usually due to sensitization to HLA antigens. Other causes include sepsis, marked splenomegaly, disseminated intravascular coagulation (DIC), and treatment with amphotericin. Information that is helpful in determining the basis for platelet refractoriness is a patient's obstetrical and transfusion history and evidence of any co-morbid condition that could affect the recovery and survival of transfused platelets (e.g. high fever or other evidence of infection, laboratory evidence of disseminated intravascular coagulation, or significant splenomegaly).