

HOSPITAL PHYSICIAN®

HEMATOLOGY BOARD REVIEW MANUAL

STATEMENT OF EDITORIAL PURPOSE

The *Hospital Physician Hematology Board Review Manual* is a study guide for fellows and practicing physicians preparing for board examinations in hematology. Each manual reviews a topic essential to the current practice of hematology.

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Hematopoietic Stem Cell Transplant: Review Questions

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Hematopoietic Stem Cell Transplant: Review Questions

Eric D. Jacobsen, MD

QUESTIONS

Choose the single best answer for each question.

- A 29-year-old man presents with a 2-week history of progressive shortness of breath and dry cough but no fever. His past medical history is significant for relapsed Hodgkin lymphoma. Six months ago, the patient underwent high-dose chemotherapy with cyclophosphamide, carmustine, and etoposide followed by autologous stem cell transplantation. The current physical examination is notable for bilateral basilar crackles, but the jugular venous pressure is normal. There is no edema and no evidence of a cardiac rub or gallop. The patient's vital signs are heart rate of 72 bpm, blood pressure of 114/76 mm Hg, temperature of 98.6°F, respiratory rate of 22 breaths/min, and oxygen saturation of 90% on room air. The patient is receiving trimethoprim/sulfamethoxazole and acyclovir, both of which were started at the time of his transplant. A restaging computed tomography (CT) scan of the chest, abdomen, and pelvis performed 4 weeks prior to this visit showed only a subtle bilateral interstitial infiltrate but no evidence of disease recurrence. What is the most likely diagnosis for the patient's symptoms?

 - Carmustine-induced lung injury
 - Congestive heart failure
 - Pneumocystis jiroveci* pneumonia
 - Pulmonary embolism
 - Relapsed Hodgkin lymphoma
- Six days ago, a 42-year-old man with a history of relapsed acute myelogenous leukemia (AML) underwent cyclophosphamide and total body irradiation (TBI) conditioning followed by allogeneic stem cell transplantation with a fully matched brother as his donor. Over the last 2 days, the patient's weight has increased by 15 kg. On physical examination, he now has moderate ascites with 2+ bilateral lower extremity edema, and his liver is newly enlarged and tender to palpation. The patient is afebrile. Notable laboratory studies are listed in Table 1. The patient had no known liver disease prior to transplantation. Which is the most likely diagnosis for the patient's symptoms?

 - Acute reactivation of hepatitis B
 - Cholangitis
 - Graft-versus-host disease (GVHD) of the liver
 - Relapsed AML
 - Veno-occlusive disease of the liver (VOD)
- A 32-year-old woman who underwent allogeneic stem cell transplantation for acute lymphoblastic leukemia (ALL) 40 days ago presents for a follow-up visit. Over the last 3 visits in the last month, the platelet count has decreased from 157,000 to 25,000 cells/ μ L (normal, 150,000–350,000 cells/ μ L), and she is mildly anemic. Creatinine levels have risen from 0.6 to 2.4 mg/dL (normal, 0.6–1.2 mg/dL). The white blood cell (WBC) count is 4.7 cells/ μ L (normal, 4500–11,000 cells/ μ L), and there are no circulating blasts. A bone marrow biopsy reveals no evidence of leukemia but does show increased megakaryocytes and slightly increased red blood cell precursors. Otherwise, the patient reports feeling well with the exception of fatigue. She is taking sirolimus and tacrolimus for GVHD prophylaxis. The sirolimus level was low at the last visit, but the tacrolimus level was within therapeutic range. Which is the most likely diagnosis for the patient's symptoms?

 - Chronic GVHD
 - Immune thrombocytopenic purpura
 - Relapsed ALL with a falsely negative bone marrow biopsy
 - Tacrolimus toxicity
 - Thrombotic thrombocytopenic purpura/hemolytic uremic syndrome (TTP-HUS)