LEARNING OBJECTIVES

On completion of the chapter, the reader will be able to:

1. Explain the pathophysiology of myelodysplastic syndromes.
2. Discern the class of chemotherapeutic agents that contributed to the development of myelodysplastic syndromes given cytogenetic analysis of the bone marrow.
3. Identify symptoms a patient may present with that are consistent with a diagnosis of myelodysplastic syndrome.
4. Describe testing that should be done to diagnose a patient with myelodysplastic syndrome.
5. Calculate the International Prognostic Scoring System risk score for a patient with myelodysplastic syndrome when given percentage of bone marrow blasts, cytogenetics, and number of cytopenias.
6. Discern the goals of therapy for a patient with myelodysplastic syndrome based on age, presence of symptoms, International Prognostic Scoring System risk score, and eligibility for allogeneic hematopoietic stem cell transplantation.
7. Recommend appropriate supportive care for a patient with symptomatic myelodysplastic syndrome.
8. Compare the rates of complete response, hematologic improvement, and overall survival of therapeutic options used to treat myelodysplastic syndromes.
9. Recommend an appropriate therapeutic regimen for a patient given his or her International Prognostic Scoring System risk category, age, cytogenetic information, and eligibility for allogeneic hematopoietic stem cell transplantation.
10. Determine the likelihood of response to erythropoiesis-stimulating agents based on erythropoietin level and duration of transfusion dependence.
11. Identify the patient population most likely to respond to lenalidomide.
12. Define patient factors predictive of response to antithymocyte globulin.
13. Contrast potential adverse effect profiles of DNA hypomethylating agents, immunomodulatory agents, and immunosuppressive medications used to treat myelodysplastic syndromes.
15. Formulate a monitoring plan to provide follow-up care for patients with myelodysplastic syndromes based on the pharmacotherapeutic plan implemented.