

Acute Lymphoblastic Leukemia

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Learning Objectives

1. Describe the purpose of the study and the basic study design.
2. Discuss likely reasons for adolescents with acute lymphoblastic leukemia (ALL) having worse prognoses than younger patients.
3. Discuss what the TPMT (thiopurine methyltransferase) enzyme is responsible for and why it is an important variable during maintenance therapy for ALL.
4. Discuss why a higher white blood cell count has continued to be an important factor in predicting the outcome of ALL during maintenance therapy.
5. Suggest additional study designs in maintenance therapy to further elucidate why some patients with ALL continue to relapse.

Acute Myelogenous Leukemia

John M. Valgus, Pharm.D., BCOP

Senior Clinical Specialist
University of North Carolina Hospitals and Clinics
UNC Eshelman School of Pharmacy
Chapel Hill, North Carolina

Learning Objectives

1. Identify essential components in the diagnostic work-up of acute myelogenous leukemia including classification, diagnostic procedures, and prognostic factors.
2. Define response criteria and survival outcome measures in acute myelogenous leukemia.
3. Evaluate the treatment options of patients with acute myelogenous leukemia.

Breast Cancer

Chad Barnett, Pharm.D., BCOP

Clinical Pharmacy Specialist, Breast Oncology
MD Anderson Cancer Center
Houston, Texas

Learning Objectives

1. Evaluate the clinical outcomes data related to the use of endocrine agents for the adjuvant treatment of breast cancer.
2. Outline the clinically relevant toxicities of the available endocrine therapies.
3. Discuss how information from this guideline may be incorporated into patient care decisions for the treatment of early stage breast cancer.

Chronic Myeloid Leukemia

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Clinical Manager, Oncology Pharmacy
Indiana University Simon Cancer Center
Indianapolis, Indiana

Learning Objectives

1. Explain the relevant end points in evaluating efficacy in comparative trials of patients with chronic myeloid leukemia (CML).
2. Explain the relative clinical benefit of the second-generation tyrosine kinase inhibitors to imatinib as tested in the trial design outlined for these papers.
3. Assess the appropriateness of the trial design for patients undergoing treatment for newly diagnosed chronic-phase CML.
4. Contrast trial design and results between the nilotinib and dasatinib trials for treatment of CML included in this module.

Colon Cancer

Patrick J. Medina, Pharm.D., BCOP

Associate Professor
University of Oklahoma
College of Pharmacy
Oklahoma City, Oklahoma

Learning Objectives

1. Describe the methods and clinical trials used to evaluate the benefit of adjuvant therapy in colon cancer.
2. Outline the benefit of adjuvant chemotherapy in the general population on the following end points: overall survival, disease-free survival, and time to treatment recurrence.
3. Differentiate the benefit of adjuvant therapy in stage II and III colon cancer.
4. Describe the study population and major end points of the trial evaluating the use of bevacizumab added to standard adjuvant chemotherapy.
5. Discuss the safety results of the C08 trial, and include the likelihood of starting and finishing chemotherapy, inclusion and exclusion criteria, adverse effects of therapy, and clinical implications of results.

Gynecologic Malignancies

Dayna L. McCauley, Pharm.D., BCOP

Oncology Pharmacist
Cancer Center
State University of New York at Stony Brook
Long Island, New York

Learning Objectives

1. Compare and contrast the progression-free survival and overall survival in patients treated with dose-dense weekly and standard-dose (every 3 weeks) paclitaxel and carboplatin (PC).
2. Identify the adverse effects associated with dose-dense weekly PC and compare them with conventional-dose PC (every 3 weeks).
3. When given patient-specific data, recommend appropriate dose adjustments for patients treated with weekly dose-dense PC.
4. Describe the proposed rationale for improved responses in patients treated with weekly dose-dense PC.

Hematopoietic Stem Cell Transplantation

Ashley K. Morris Engemann, Pharm.D., BCOP

Clinical Associate
Division of Cellular Therapy
Duke University Medical Center
Durham, North Carolina

Learning Objectives

1. Identify specific factors in hematopoietic stem cell transplantation (HSCT) recipients that predispose them to the development of infection.
2. Select appropriate medications for the prevention of bacterial, viral, fungal, and *Pneumocystis* infections in patients undergoing HSCT.
3. Describe how you would apply the guidelines for preventing infectious complications to the development of strategies for post-transplant vaccination at your institution.
4. Identify differences in the risk of infection in individuals with graft-versus-host disease compared with other HSCT recipients and evaluate prophylactic strategies aimed at this population.

Literature Evaluation and Biostatistics in Oncology

Linda S. Tyler, Pharm.D.

Professor
University of Utah Hospitals and Clinics
Salt Lake City, Utah

Learning Objectives

1. Calculate relative risk reduction, absolute risk reduction, and number needed to treat and interpret this information.
2. Interpret p-value and confidence interval information presented in clinical trials.
3. Explain the relationship between:
 - a. absolute risk reduction and number needed to treat and
 - b. confidence interval and sample size.
4. Calculate the upper boundary of the confidence interval for low numerator situations.

Lung Cancer

R. Donald Harvey, III, Pharm.D., FCCP, BCPS,
Assistant Professor of Hematology and Oncology
Director, Phase I Unit, Winship Cancer Institute
Emory University
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Learning Objectives

1. Describe the role of mutations of the epidermal growth factor receptor (EGFR) in selecting initial therapy for advanced non-small cell lung cancer (NSCLC).
2. Identify patient populations who may benefit from individualized approaches using patient- and disease-specific data to select NSCLC treatment.
3. Evaluate the adverse event profile and efficacy data using EGFR inhibitors and chemotherapy in advanced NSCLC.

Melanoma

Val R. Adams, Pharm.D., FCCP, BCOP
Associate Professor of Pharmacy Practice and Science
University of Kentucky College of Pharmacy
Lexington, Kentucky

Learning Objectives

1. Describe the role of ipilimumab for metastatic malignant melanoma.
2. Discuss the benefit of ipilimumab.
3. Outline a treatment plan for an individual with ipilimumab toxicity.

Pancreatic, Stomach, and Liver Tumors

Dina Patel, Pharm.D., BCOP

Clinical Pharmacy Specialist -- GI Medical Oncology
MD Anderson Cancer Center
Houston, Texas

Learning Objectives

1. Describe the pathogenesis and pathophysiology of pancreatic tumors.
2. Identify the risk factors, clinical symptoms, and staging for pancreatic tumors.
3. Explain the role of angiogenesis inhibitors with respect to pancreatic tumors.
4. Outline the appropriate pharmacologic and nonpharmacologic treatment of pancreatic tumors.
5. Discuss the pharmacology and toxicities associated with each chemotherapeutic agent used to treat pancreatic tumors.

Prostate Cancer

Sachin R. Shah, Pharm.D., BCOP

Associate Professor of Pharmacy Practice
Hemtaology/Oncology Clinical Pharmacist
Texas Tech University Health Sciences Center
School of Pharmacy/VANTHCS
Dallas, Texas

Learning Objectives

1. Evaluate the clinical outcome of cabazitaxel compared with mitoxantrone for second-line treatment of metastatic castration-resistant prostate cancer.
2. Design cabazitaxel dosing, administration, and monitoring based on patient-specific characteristics.
3. Explain the toxicity of cabazitaxel compared with that of mitoxantrone and other taxanes.
4. Develop treatment regimen plans for patients with prostate cancer.

Supportive Care

Theresa A. Mays, Pharm.D., BCOP
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San Antonio, Texas

Learning Objectives

1. Explain the pathophysiology of the heart and list the proposed mechanisms of cardiotoxicity secondary to chemotherapy.
2. Identify the appropriate diagnostic work-up/follow-up of patients receiving chemotherapy associated with the development of cardiotoxicity.
3. Summarize the incidence of anthracycline-induced cardiotoxic events.
4. Recommend appropriate prevention strategies for cardiotoxicity.
5. Recommend appropriate management strategies for patients who develop cardiotoxicity.

Thromboembolism

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Learning Objectives

1. Describe the limitations of unfractionated heparin and warfarin as anticoagulants.
2. Recommend the appropriate use of antithrombotic agents for an individual patient with cancer after being provided details about his/her situation.
3. Explain the mechanism of action for new antithrombotic agents and the advantages compared with current antithrombotic therapy.