

Dihydrofolate Reductase Inhibitors

I. Medications

- A. _____
- Breast Cancer
 - Bladder Cancer
 - Head/Neck Cancer
 - ALL
 - Crohn's
 - RA
 - Psoriasis/Psoriatic Arthritis
- B. _____
- NSCLC
- C. _____
- T-cell lymphoma

II. Mechanism

- A. _____

III. Adverse Effects

- A. Stomatitis/Mucositis
- B. _____
- C. Drug-drug interactions

Other Antimetabolites for Chemotherapy

I. _____

- A. Applications
- ALL
- B. Mechanism
- _____, _____ synthesis
 - Metabolites _____ and _____
- C. Adverse Effects
- _____
 - Myelosuppression

II. _____

- A. Applications
- Solid tumors
 - Basal cell carcinoma
- B. Mechanism
- _____ analog
 - _____ (produces _____)
 - _____ necessary for DNA production
- C. Adverse Effects
- Mucositis
 - Myelosuppression

III. _____

A. Applications

- Myelodysplastic syndrome
- AML

B. Mechanism

- _____ analog (_____)
- _____

C. Adverse Effects

- _____
- _____
- _____
- Myelosuppression

IV. _____

A. Applications

- Colorectal cancer
- Breast cancer

B. Mechanism

- Converted to _____
- Inhibits _____

C. Adverse Effects

- Mucositis
- Myelosuppression

V. _____

A. Applications

- CLL
- Non-Hodgkin lymphoma
- Hairy cell leukemia

B. Mechanism

- _____ and inserted _____
- Inhibits _____ & inhibits _____

C. Adverse Effects

- Myelosuppression
- _____
- _____
- _____

VI. _____

A. Applications

- AML

B. Mechanism

- _____ analog, inhibits _____
- Incorporates into _____ & stops _____

VII. _____

A. Applications

- CLL
- Non-Hodgkin lymphoma
- Hairy cell leukemia

B. Mechanism

- _____ analog, incorporated into _____/_____ resulting in _____

C. Adverse Effects

- Myelosuppression
- _____
- _____

VIII. _____

A. Applications

- Pancreatic cancer
- NSCLC

B. Mechanism

- _____ analog, _____

C. Adverse Effects

- Myelosuppression
- _____
- _____
- _____

Anthracyclines

I. Medications

- A. _____
- B. _____
- C. _____
- D. _____
- E. _____

II. Application

- A. Leukemia
- B. Sarcoma (Doxorubicin)
- C. Breast cancer (Epirubicin)
- D. Prostate Cancer (Mitoxantrone)

III. Mechanism

- A. Produces _____
- _____ DNA
 - _____ of DNA components
 - _____ of membrane lipids

IV. Adverse Effects

- A. _____

Bleomycin

I. Applications

- A. Testicular cancer
- B. Hodgkin lymphoma

II. Mechanism

- A. _____ analog
 1. _____ DNA via formation of _____ & _____

III. Adverse Effects

- A. _____
- B. _____

Alkylating Agents

I. Medications

- A. _____
- B. _____
- C. _____
- D. _____
- E. _____
- F. _____
- G. _____

II. Applications (varies by drug)

- A. Sarcoma
- B. Breast Cancer
- C. Non-Hodgkin lymphoma
- D. Brain tumors
- E. Melanoma

III. Mechanism

- A. _____ DNA, _____, which leads to _____

IV. Adverse Effects

- A. _____
- B. Cytotoxic

Vinca Alkaloids

I. Medications

- A. _____
 1. Lymphoma
 2. ALL
 3. Wilms tumor
 4. Ewing sarcoma

- B. _____
 1. Lymphoma
 2. Testicular Cancer

II. Mechanism

- A. _____

III. Adverse Effects

- A. _____

Taxanes

I. Medications

- A. _____
 1. Breast cancer
 2. Prostate cancer
 3. NSCLC

- B. _____
 1. Breast cancer
 2. Ovarian cancer

II. Mechanism

1. _____ & _____

III. Adverse Effects

- A. _____
- B. Hypersensitivity reactions

Aromatase Inhibitors

I. Medications

- A. _____
- B. _____
- C. _____

II. Applications

- A. _____

III. Mechanism

- A. Inhibits _____ → decreases _____

IV. Adverse Effects

- A. _____

Monoclonal Antibody Cancer Therapies

I. _____

- A. Application
 1. Colorectal cancer

- B. Mechanism
 1. _____
 2. Prevents _____

II. _____

- A. Application
 1. Colorectal cancer
 2. Head and neck cancer

- B. Mechanism
 1. _____
 2. Interferes with _____

III. _____

- A. Application

1. RA
2. Lymphoma
3. CLL

- B. Mechanism

1. _____ on _____
2. Induces _____

- C. Adverse Effects

1. Hypersensitivity reactions
2. _____

IV. _____

- A. Applications

1. Breast cancer
2. Esophageal cancer
3. Gastric cancer

- B. Mechanism

1. _____, effects _____
2. Stimulates _____

- C. Adverse Effects

1. _____

Platinum-based Therapies

I. Medications

- A. _____
- B. _____
- C. _____

II. Applications

1. Solid tumors
2. Ovarian cancer
3. Bladder cancer

III. Adverse Effects

- A. _____
- B. _____
- C. Myelosuppression
- D. Hypersensitivity reactions

Topoisomerase Inhibitors

I. Medications

- A. _____
 1. Colorectal cancer
- B. _____
 1. Ovarian cancer
 2. SCLC
- C. _____
 1. Lung cancer
 2. Testicular cancer

II. Mechanism

- A. _____ & _____
 1. Inhibits _____
(_____)
- B. _____
 1. Binds _____ & _____, limiting function & leaving _____

III. Adverse Effects

- A. Myelosuppression

Tyrosine Kinase Inhibitors

I. Medications

- A. _____
- B. _____
- C. _____
- D. _____
- E. _____
- F. _____

II. Applications

- A. _____/_____/_____
 1. CML
- B. _____
 1. NSCLC
 2. Pancreatic cancer
- C. _____
 1. Renal cell carcinoma
 2. Hepatocellular carcinoma
- D. _____
 1. Renal cell carcinoma
 2. Pancreatic neuroendocrine tumors

III. Mechanism

- A. Inhibits _____ in various tumor types
 1. Reduced cell proliferation

IV. Adverse Effects

- A. _____/_____/_____
 1. _____

Procarbazine

I. Applications

- A. Hodgkin lymphoma

II. Mechanism

- A. _____ from _____ reactions
 1. Inhibits DNA/RNA/protein synthesis

III. Adverse Effects

- A. _____
- B. _____
- C. _____

Asparaginase

I. Applications

- A. ALL

II. Mechanism

- A. Converts _____ to _____ & _____
 1. Reduces _____ levels, limiting growth

III. Adverse Effects

- A. _____
- B. _____
- C. _____
- D. Hypersensitivity reactions

Immunosuppressants

Selective Cytokine Inhibitors

I. _____

A. Application

1. Kidney transplants

B. Mechanism

1. Binds _____ & _____ on _____
2. Reduces _____ & _____ downstream effects

C. Adverse Effects

1. _____
(Associated w/ prior EBV exposure)
2. Contraindicated in _____

II. _____

A. Application

1. Liver, kidney, heart transplants

B. Mechanism

1. Inactivates _____
2. Reduces production of _____

C. Adverse Effects

1. _____
2. _____
3. _____
4. _____

III. _____

A. Application

1. Kidney transplant

B. Mechanism

1. Inhibits _____ (_____/_____ kinase)
2. Decreases _____

C. Adverse Effects

1. Hyperlipidemia
2. Angioedema
3. Venous & arterial thrombosis of graft

IV. _____

A. Applications

1. Kidney transplant

B. Mechanism

1. Inhibits _____ (_____/_____ kinase)
2. Decreases _____

C. Adverse Effects

1. Hyperlipidemia

V. _____

A. Applications

1. Kidney, Liver, Pancreas, Heart transplant

2. Dermatitis

B. Mechanism

1. Binds _____, reduces activation of _____, reducing cytokine production

C. Adverse Effects

1. _____
2. _____

Antimetabolites for Immunosuppression

I. _____

A. Application

1. _____

B. Mechanism

1. Inhibits purine synthesis
2. Metabolites inserted into DNA/RNA, rendering non-functional
3. Nucleotide analog

C. Adverse Effects

1. Bone marrow suppression

II. _____

A. Application

1. Liver, kidney, heart transplants

B. Mechanism

1. Inhibits _____
2. Reduces production of _____

Anti-rejection Antibodies

I. _____

A. Application

1. _____

B. Mechanism

1. Binds _____, leading to _____

C. Adverse Effects

1. _____
2. Thrombocytopenia

II. _____

A. Application

1. _____

B. Mechanism

1. Binds _____ on _____, limiting _____ & _____