Antineoplastic drugs - designed to treat malignancies, now also used to treat diseases with inflammatory component

Tx of malignancies

Antineoplastic drugs: methotrexate
mechanism of action

ADR’s

Oral Effects

Dental Hygiene Management of patient taking Antineoplastic agents
Before drug treatment

During treatment

After treatment
I. RESPIRATORY SYSTEM

A. Respiratory diseases
   1. Non-infectious

   2. Infectious

   3. Ventilation Drive

B. Respiratory Drugs
   Non-infectious disease
   1. Sympathomimetic Agents (see Chapter 4)
      Mechanism of action

      ADR’s

      non-selective β agonists

      selective β2 agonists

      Drugs:
      albuterol: albuterol, ProAir HFA, Proventil HFA, Ventolin HFA
      Combivent: (albuterol + ipratropium)
      Advair HFA: (salmeterol + fluticasone)

   2. Corticosteroids (see Chapter 19)
      Mechanism of action

      ADR’s

      Drugs: fluticasone  (Advair discus, Flonase, Flovent)
      mometasone  (Nasonex)
      budesonide  (Rhinocort, Pulmicort)
      triamcinolone  (Nasacort)
      prednisone

   3. Leukotriene-Pathway Inhibitors (see Chapter 18)
      Mechanism of action
4. Mast Cell Dregranulation Inhibitors
Mechanism of action

ADR’s

Drugs: montelukast (Singulair)

5. Methylxanthines
Mechanism of action

ADR’s

Drugs: theophylline, aminophylline

6. Anticholinergics (see Chapter 4)
Mechanism of action

ADR’s

Drugs: ipratropium (Combivent / with albuterol)
tiotropium (Spiriva)

7. Immune Response Modifiers
MA:
ADR’s:

Drugs: omalizumab (Xolair)

Infectious Disease
1. Antibiotics (see Chapter 8)
2. Nasal decongestants
   MA:

   ADR’s:

   Drugs: (see chapter 4)
   phenylpropanolamine
   pseudoephedrine (Sudafed)
   phenylephrine (Neo-Synephrine)

3. Expectorants
   MA

   ADR’s

   Drugs: Guaifenesin [OTC]

4. Mucolytics
   MA

   ADR’s

   Drugs: acetylcysteine

5. Antitussives
   MA

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**DENTAL IMPLICATIONS of respiratory drugs**

- About 10% of steroid-dependent asthmatics are allergic to sulfites (see pg. 6) (allergy to sulfites is an absolute contraindication to vasoconstrictor)
- pt should bring inhaler to appointment and have ready access to inhaler (acute asthmatic attack should be treated with fast-acting β2 agonist)
- look for oral candidiasis with inhaled steroid use
- inhalers (all drugs) can cause xerostomia
I. GASTROINTESTINAL SYSTEM
   A. GI Diseases
      1. GERD (gastroesophageal reflux disease)
         tx:

      2. Ulcers
         tx:

      3. Chronic inflammatory bowel disease (IBD)
         a. ulcerative colitis

         b. Crohn’s disease

         tx:

   B. GI Drugs
      1. Histamine2-Blocking Agents (see chapter 18)
         MA:

         ADR’s

         Drugs:  cimetidene (Tagamet)
                  famotidine (Pepcid AC)
                  ranitidine (Zantac)
                  nizatidine (Axid)

      2. Proton Pump Inhibitors (PPI)
         MA:

         ADR’s

         Drugs:  omeprazole (Prilosec)
                  lansoprazole (Previcid)
                  pantoprazole (Protonix)
                  rabeprazole (Aciphex)

      3. Antacids (OTC)

      4. Miscellaneous GI Drugs
         a. misoprostol (PGE$_{a,2}$)
         b. sucralfate
         c. metoclopramide
         d. simethicone
Steroid-Dependent Asthma

Definitions:

1. The Asthma Center specialists consider you "Steroid Dependent" if you receive corticosteroids in the following manner:
   - frequent, short term **oral** corticosteroid treatment bursts in the past 12 months
   - regular use of high dose **inhaled** corticosteroids in the past 12 months
   - regular use of **injected** long acting corticosteroids
   - daily use of **oral** corticosteroids
   - alternate-day **oral** corticosteroids
   - prolonged use of **oral** corticosteroids in the past year

2. “A practical definition, useful for the clinician, is any patient who requires daily oral steroids (or very high doses of high-potency inhaled steroids) to minimize the frequency of asthma exacerbations. These patients are considered either steroid-dependent (normal pulmonary function maintained only if taking oral steroids) or steroid-resistant (poor pulmonary function despite treatment with oral steroids).”

from Severe Steroid-Dependent Asthma: Therapeutic Role of High-Dose Intravenous Immunoglobulin Nathan Rabinovitch, MD, Erwin W. Gelfand, MD Medscape General Medicine. 2000;2(1) © 2000 Medscape

Examples:

A. Inhaled Corticosteroids
   1. beclomethasone (QVAR) 40 mcg/puff 80 mcg / puff
   2. budesonide (Pulmicort) 200 mcg, 250 mcg, 500 mcg
   3. ciclesonide (Alvesco) 80 mcg, 160 mcg
   4. flunisolide (Aerobid) 250 mcg
   5. fluticasone
      MDI: Flovent HFA 44 mcg, 110 mcg, 220 mcg
      DPI: Advair HFA 100 mcg, 250 mcg, 500 mcg
   6. mometasone furoate (Asmanex Twisthaler) 110 mcg, 220 mcg
   7. triamcinolone (Azmacort) 200 mcg

B. Oral Corticosteroids
   1. prednisone
   2. prednisolone
   3. dexamethasone
   4. methylprednisolone

C. What is a high dose of inhaled corticosteroid?

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<tr>
<th></th>
<th>Beclomethasone</th>
<th>Budesonide</th>
<th>Flunisolide</th>
<th>Fluticasone (MDI)</th>
<th>Fluticasone (DPI)</th>
<th>Triamcinolone</th>
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<td>Low dose, for mild,</td>
<td>168 - 504 mcg</td>
<td>200-400 mcg</td>
<td>500 - 1000 mcg</td>
<td>88 - 264 mcg</td>
<td>100 - 300 mcg</td>
<td>400 - 1000 mcg</td>
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<td>Medium dose, for</td>
<td>504 -840 mcg</td>
<td>400 - 600 mcg</td>
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<td>264 - 660 mcg</td>
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<td>High dose, for</td>
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<td>&gt; 660 mcg/day</td>
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