Chapter 30

- Drugs Used to Treat Upper Respiratory Disease
- Learning Objectives
  - State the causes of allergic rhinitis and nasal congestion
  - Explain the major actions (effects) of sympathomimetic, antihistaminic, and corticosteroid decongestants and cromolyn
  - Define *rhinitis medicamentosa*, and describe the patient education needed to prevent it
  - Identify essential components involved in planning patient education that will enhance adherence with the treatment regimen
- Upper Respiratory Tract Anatomy and Physiology
  - Nose and turbinates
  - Sinuses
  - Nasopharynx
  - Pharynx
  - Tonsils
  - Eustachian tubes
  - Larynx
- Common Upper Respiratory Diseases
  - Rhinitis
    - Inflammation of nasal mucous membrane
- Caused by common cold, bacterial infection, presence of foreign body, drug-induced congestion (rhinitis medicamentosa)

- **Allergic rhinitis**
  - Caused by allergic reaction
  - Releases large amounts of histamine

- **Treatment of Upper Respiratory Diseases**

- **Common cold**
  - Limited to relieving symptoms
  - Antihistamines are of some benefit
  - Analgesics, antipyretics, expectorants, antitussive agents also beneficial, depending on cold symptoms

- **Treatment of Upper Respiratory Diseases (cont’d)**

- **Allergic rhinitis**
  - Identify allergens (skin testing)
  - Avoid exposure, if possible, to allergens
  - Treat with antihistamines, decongestants, intranasal antiinflammatory agents
  - Use saline nasal spray to reduce nasal irritation

- **Treatment of Upper Respiratory Diseases (cont’d)**

- **Rhinitis medicamentosa**
  - Prevention is best treatment
  - Withdraw topical decongestant
  - Nasal steroid solutions also can be used

- **Nursing Process for Upper Respiratory Diseases**

- **Assessment**
- Description of symptoms
- History of treatment
- History of concurrent medical problems

● Planning
  - Symptoms and treatment

● Implementation

● Patient Education and Health Promotion

● Patient understands importance of adequate rest, hydration, personal hygiene

● Discuss specific medications prescribed

● Patient understands when to take medication

● Patient Education and Health Promotion (cont’d)

● Explain proper technique in administering medications

● Teach patient to monitor temperature, pulse, respiratory rate, and blood pressure, as appropriate

● Learning Objectives

● Explain why all decongestant products should be used cautiously in people with hypertension, hyperthyroidism, diabetes mellitus, cardiac disease, increased intraocular pressure, or prostatic disease

● State the premedication assessments and nursing assessments needed during therapy to monitor therapeutic response and side effects to expect or report from using decongestant drug therapy

● Learning Objectives (cont’d)
• Review the procedure for administration of medications by nose drops, sprays, and inhalation

• Sympathomimetic Decongestants

• Actions
  ■ Stimulate alpha adrenergic receptors of nasal mucous membranes causing vasoconstriction

• Uses
  ■ Relieve congestion associated with rhinitis
  ■ Administered orally or topically as nasal spray

• Therapeutic outcomes
  ■ Reduced nasal congestion, easier breathing

• Nursing Process for Sympathomimetic Decongestants

• Premedication assessment
  ■ Check patient history
  ■ Take baseline vital signs

• Planning
  ■ Availability

• Administration
  ■ Nose drops, nasal spray

• Nursing Process for Sympathomimetic Decongestants (cont’d)

• Evaluation
  ■ Side effects to expect
• Mild nasal irritation

Side effects to report
• Hypertension

Drug interactions
• Drugs that enhance toxic effects
  • Methyldopa, reserpine
    • Concurrent therapy not recommended

• Antihistamines

• Actions
  • Compete with allergy-liberated histamine
  • Reduce symptoms of allergic reaction

• Uses
  • Systemic treatment of allergic rhinitis and conjunctivitis
  • Best taken on scheduled basis

• Therapeutic outcomes
  • Reduced symptoms of allergic rhinitis

• Nursing Process for Antihistamines

• Premedication assessment
  • Review patient history for glaucoma, prostatic hyperplasia, asthma
  • Assess patient’s work environment
  • Individualize patient assessment with underlying pathologic condition

• Planning
• Implementation
  ▪ Nasal spray, tablets/capsules, syrup, injection, suppository

• Nursing Process for Antihistamines (cont’d)

• Side effects to expect
  ▪ Sedative effects
  ▪ Cognitive impairment
  ▪ Drying effects
  ▪ Fluid intake
  ▪ Blurred vision, constipation, urinary retention; dryness of mouth, throat, and nasal mucosa

• Drug interactions
  ▪ Central nervous system (CNS) depressants

• Learning Objectives

  • Explain why all decongestant products should be used cautiously in people with hypertension, hyperthyroidism, diabetes mellitus, cardiac disease, increased intraocular pressure, or prostatic disease

  • State the premedication assessments and nursing assessments needed during therapy to monitor therapeutic response and side effects to expect or report from using decongestant drug therapy

• Learning Objectives (cont’d)

• Review the procedure for administration of medications by nose drops, sprays, and inhalation

• Intranasal Corticosteroids

• Actions
- Exact mechanism that reduces inflammation is unknown

- Uses
  - Given to patients who don’t respond to antihistamines or sympathomimetic agents

- Therapeutic outcomes
  - Reduced rhinorrhea, rhinitis, itching, sneezing

- Nursing Process for Intranasal Corticosteroid Therapy

  - Premedication assessment
    - Treat blocked nasal passages with topical decongestant just before beginning intranasal corticosteroids
    - Patient blows nose thoroughly before administering

  - Planning
    - Availability

  - Nursing Process for Intranasal Corticosteroid Therapy (cont’d)

  - Implementation
    - Nasal aerosol, nasal spray
    - Counseling
    - Preparation before administration
    - Maintenance therapy

  - Evaluation
    - Side effects to expect—nasal burning

- Cromolyn Sodium (Nasalcrom)

- Actions
  - Antiinflammatory agent that inhibits release of histamine
Uses
- In conjunction with other medications to treat severe allergic rhinitis

Therapeutic outcomes
- Reduced rhinorrhea, itching, sneezing

Nursing Process for Cromolyn

Premedication assessment
- Taken before exposure to stimulus that initiates attack of allergic rhinitis
- Determine if concurrent use of antihistamines or nasal decongestants has been ordered
- Patient blows nose thoroughly before administering

Planning
- Availability

Nursing Process for Cromolyn (cont’d)

Implementation
- Nasal spray, nasal aerosol
- Counseling

Evaluation
- Side effects to expect
  - Nasal irritation
- Side effects to report
  - Bronchospasm coughing
- No drug interactions reported