Ch 41 Bowel Disorders

Lower Digestive Tract
- Small intestine is location for most nutrient and drug absorption
  - Peristalsis is controlled by autonomic nervous system
  - Peptic ulcer most common disorder
- Large intestine responsible for
  - Reabsorption of water
  - Excretion of fecal matter

Constipation
- Infrequent passage of hard, small stools
- Symptom of underlying disorder
- Common condition caused by
  - Lack of exercise
  - Insufficient dietary fiber

Constipation (continued)
- Common condition caused by
  - Diminished fluid intake
  - Slow motility of waste material through large intestine
  - Certain foods, medications, diseases

Diarrhea
- Increase in frequency and fluidity of bowel movements
- Occurs when colon fails to reabsorb enough water
- Is a type of body defense
  - Eliminates toxins and pathogens
  - Eliminates certain medications and infections
Diarrhea (continued)

- If prolonged, can lead to fluid, electrolyte, and acid-base imbalance
- Monitor frequently
  - May be related to pseudomembranous colitis

Laxatives and Cathartics

- Treat or prevent constipation
- Prepare bowel for surgery or diagnostic procedures
- Promote emptying of large intestine
- Stimulants and herbal agents
  - Stimulate peristalsis
- Mineral oil
  - Lubricates fecal mass

Actions of Laxatives and Cathartics (continued)

- Bulk-forming agents, stool softeners or surfactants, saline or osmotic laxatives
  - Add more bulk or water to colon contents

Diarrhea

- Treatment depends on severity and etiology
- Opioids for severe diarrhea
  - Most effective
  - Slow peristalsis

Medications for Simple Diarrhea

- Loperamide
- Bismuth compounds
- Psyllium preparations
- Probiotic supplements

Inflammatory Bowel Disease (IBD)

- Ulcerative colitis: erosions in large intestine
- Crohn’s disease: ulceration in distal part of small intestine
- Symptoms range from mild to acute
  - Abdominal cramping and diarrhea
- Periods of remissions and exacerbations
Treatment of Inflammatory Bowel Disease

- **5-aminosalicylic acid (5-ASA) agents**
  - Sulfonamide sulfasalazine (Azulfidine), olsalazine (Dipentum), mesalamine (Asacol)

- **Glucocorticoids**
  - Prednisone, methylprednisolone, hydrocortisone

- **Immunosuppressant drugs**
  - Azathioprine (Imuran), methotrexate (MTX), infliximab (Remicade)—monoclonal antibody

Irritable Bowel Syndrome (IBS)

- Also known as spastic colon or mucous colitis
- Common disorder of lower gastrointestinal tract
- Symptoms include abdominal pain, cramping, bloating, gas
  - Constipation, alternating with diarrhea

Irritable Bowel Syndrome (continued)

- Functional bowel disorder
  - No presence of detectable disease
  - Stress and dietary factors precipitate symptoms

Treatment of Irritable Bowel Syndrome

- Supportive, symptomatic treatment
- Bulk laxatives used
  - Psyllium
- Anticholinergic medications
  - Reduce bowel spasms
  - Dicyclomine (Bentyl)

Treatment of Irritable Bowel Syndrome (continued)

- Tegaserod
  - One of few drugs approved for IBS with constipation
- Serotonin agonists; stimulates peristaltic reflex

Vomiting (Emesis)

- Defense mechanism used by body to rid itself of toxic substances
- Controlled by the “vomiting center”
  - Medulla of brain
- Associated with many conditions
  - Infection, poisoning
  - Psychological factors, pain
  - Changes in body position
Vomiting (Emesis) (continued)

- Many drugs can cause nausea and vomiting as side effects
  - Common reason to discontinue a drug
  - Emetogenic potential: capacity of drug to induce vomiting

Treatment of Nausea and Vomiting (Antiemetics)

- Simple nausea treated with over-the-counter drugs and herbal options
- Serious nausea treated with prescription drugs
  - Phenothiazines, antihistamines, Anticholinergics
  - Cannabinoids, glucocorticoids, benzodiazepines
  - Serotonin receptor antagonists

Anorexiants

- Drugs that affect hunger and/or appetite
- For short-term management of obesity
- Produce only modest effects
- In 1970s, amphetamine and dextroamphetamine widely used
  - Addictive, now rarely prescribed

Anorexiants (continued)

- Some products taken off market after causing heart problems
  - Fen-phen in 1990s
  - Ephedra products in 2004
- Two anorexiants used today
  - Orlistat—blocks lipid absorption in the gastrointestinal tract
  - Sibutramine—selective serotonin reuptake inhibitor (SSRI)

Laxative Therapy for Bowel Evacuation

- Assess abdomen for distension, bowel sounds, bowel patterns
- Peristalsis must be restored prior to laxative therapy
- Assess for colon cancer, esophageal obstruction, intestinal obstruction, fecal impaction, undiagnosed abdominal pain
- If diarrhea occurs, discontinue laxative use

Laxative Therapy for Bowel Evacuation (continued)

- Use with caution during pregnancy and lactation
- Take with one to two glasses of water
- Assess client’s ability to swallow
- Assess for diarrhea and cramping
- Assess for and educate clients about proper use of laxatives and stool softeners
Antidiarrheal Therapy
- Assess fluid and electrolyte status
- Assess for blood in stool
- Do not use if constipation should be avoided
- Assess client’s ability to get out of bed safely

Antidiarrheal Therapy (continued)
- Antidiarrheals contraindicated in some clients
  - Those with severe dehydration, electrolyte imbalance
  - Clients with liver and renal disorders, glaucoma

Tegaserod (Zelnorm) Therapy
- Monitor liver and renal function
- Monitor cardiovascular status
- Contraindicated in severe hepatic or renal impairment, bowel obstruction, gallbladder disease, abdominal pain

Tegaserod (Zelnorm) Therapy for IBD (continued)
- Administer drug just prior to meal, with full glass of water
- Tablets may be crushed
- Do not give drug to clients with frequent diarrhea

Antiemetic Therapy
- Assess symptoms that precipitated vomiting
- If sedation and continued vomiting occur, nasogastric tube with suction may be indicated
- Client safety is a concern because of drowsiness

Antiemetic Therapy (continued)
- Assess for risk for falls
- Immediately report vomiting of blood
- Do not use OTC antiemetics for prolonged periods
Drugs Used to Stimulate Emesis

- Should only be used in emergency situations
- Used only when client is alert because of risk of aspiration
- When client is comatose, gastric lavage tube is placed and attached to suction to empty gastric contents
- Some poisons and caustic chemicals should not be vomited

Anorexiant Therapy

- Focus on lifestyle changes that will have effect on long-term weight reduction
- Drugs for weight loss have limited effectiveness
  - Potentially serious side effects

Anorexiant Therapy (continued)

- Education of clients essential
  - Should not take OTC or herbal medications without notifying health-care provider
  - If taking orlistat, take multivitamin each day
    - Omit dose if no fat present in meal or meal is skipped
    - Know that excessive flatus and fecal leaking may occur

Pancreatic Enzyme Replacement Therapy

- Assess for use of foods that stimulate gastric and pancreatic secretions
- Assess for and monitor presence, amount, type of pain
- Assess respiratory status

Pancreatic Enzyme Replacement Therapy (continued)

- Monitor for elevated serum and urinary amylase and elevated serum bilirubin
- Monitor client’s nutritional and hydration status and for signs of infection
- Check for pork allergy

Pancreatitis

- Pancreatic enzymes (amylase and lipase) trapped in pancreas
  - Not released into duodenum
- Associated with gallstones in women and alcoholism in men
- Pharmacotherapy includes
  - Replacement enzymes
  - Supportive drugs for reduction of pain and gastric-acid secretion
**Laxatives**

- **Prototype drug:** psyllium mucilloid (Metamucil)
- **Mechanism of action:** swells and increases size of fecal mass
- **Primary use:** to promote passage of stool
- **Adverse effects:** rare; less cramping than stimulant-type laxatives
  - With insufficient water, may cause obstructions in esophagus or intestine

**Antidiarrheals, Opioids**

- **Prototype drug:** diphenoxylate with atropine (Lomotil)
- **Mechanism of action:** slows peristalsis
- **Primary use:** for moderate to severe diarrhea
- **Adverse effects:** dizziness and drowsiness

**Drugs for IBD and IBS**

- **Prototype drug:** tegaserod (Zelnorm)
- **Mechanism of action:** as serotonin receptor agonist that causes an increase in stool formation and number of bowel movements

**Drugs for IBD and IBS (continued)**

- **Primary use:** for clients who have constipation-dominant form of irritable bowel syndrome
- **Adverse effects:** diarrhea, which usually occurs as single episode
  - Resolves as therapy progresses

**Antiemetics, Phenothiazines and Phenothiazide-like Drugs**

- **Prototype drug:** prochlorperazine (Compazine)
- **Mechanism of action:** blocks dopamine receptors in brain
  - Inhibits signals to vomiting center in medulla
- **Primary use:** for severe nausea and vomiting

**Antiemetics, Phenothiazines and Phenothiazide-like Drugs (continued)**

- **Adverse effects:** dose-related anticholinergic side effects
  - Dry mouth, sedation, constipation
  - Orthostatic hypotension, tachycardia
  - Extrapyramidal symptoms are serious concern with prolonged therapy
Anorexiants

- **Prototype drug:** sibutramine (Meridia)
- **Mechanism of action:** as selective serotonin reuptake inhibitor (SSRI)
- **Primary use:** most widely prescribed appetite suppressant for short-term control of obesity
- **Adverse effects:** headache, insomnia, dry mouth
  - May cause tachycardia and raise blood pressure

Pancreatic-Enzyme Replacement

- **Prototype drug:** pancrelipase (Lipancreatin, Pamcrease, Zymase)
- **Mechanism of action:** contains lipase, protease, and amylase of pork origin
  - Facilitate conversion of lipids into glycerol and fatty acids
  - Convert starches into dextrin and sugars
  - Convert proteins into peptides

Pancreatic-Enzyme Replacement (continued)

- **Primary use:** as replacement therapy for clients with insufficient pancreatic exocrine secretions
- **Adverse effects:** GI symptoms of nausea, vomiting, and/or diarrhea
  - Can cause metabolic symptom of hyperuricosuria

Laxatives

- Promote bowel movements
- Available OTC for self-treatment of simple constipation

Types of Laxatives

- Bulk-forming agents absorb water, adding size to fecal mass
- Stool softeners or surfactants cause more water and fat to be absorbed into stools
- Stimulants irritate bowel to increase peristalsis

Types of Laxatives (continued)

- Saline or osmotic laxatives are not absorbed in intestine
  - Pull water into fecal mass to create more watery stool
- Herbal agents are natural products available OTC
  - Most commonly used herbal laxative is senna
- Miscellaneous agents include mineral oil
  - Acts by lubricating stool and colon mucosa
Antidiarrheals
- For mild diarrhea
- Effective at returning elimination patterns to normal
- For severe cases, the opioids are the most efficacious of the antidiarrheal agents

Drugs for Inflammatory Bowel Disease
- Medications from several classifications
- Mild-to-moderate treated with 5-aminosalicylic acid (5-ASA) agents
- Corticosteroids used in more persistent cases
- Particularly severe disease may require immunosuppressant drugs

Drugs for Irritable Bowel Syndrome
- Treatment is supportive
- Targeted at symptomatic treatment
- Medications include bulk laxatives, anticholinergic drugs, serotonin agonists

Antiemetics
- Drugs from at least eight different classes
- Used to prevent nausea and vomiting
- Act by inhibiting dopamine or serotonin receptors in brain

Anorexiant
- Used to induce weight loss by suppressing appetite and hunger
- Few such drugs on market
- Approved agents produce only modest effects

Pancreatic-Enzyme Replacement
- Pancreas secretes essential digestive enzymes
  - Carboxypeptidase, chymotrypsin, trypsin
- Lipase, amylase, and nuclease require presence of bile
- Lack of secretion results in malabsorption disorders
  - Replacement therapy sometimes warranted
 Clients Receiving Antidiarrheal Therapy  

**Assessment**  
- Obtain complete health history  
- Assess sodium, chloride, potassium levels  
- Evaluate results of stool culture  
- Assess for presence of dehydration  
- Obtain vital signs and ECG

 Clients Receiving Antidiarrheal Therapy  

**Nursing diagnoses**  
- Risk for imbalanced fluid volume: less than body requirements, related to fluid loss secondary to diarrhea  
- Risk for injury (falls), related to drowsiness secondary to drug therapy

 Clients Receiving Antidiarrheal Therapy  

**Planning—client will**  
- Report relief of diarrhea  
- Demonstrate understanding of drug’s action  
- Immediately report effects  
  - Persistent diarrhea, constipation  
  - Abdominal pain, blood in stool  
  - Confusion, dizziness, fever

 Clients Receiving Antidiarrheal Therapy  

**Implementation**  
- Monitor frequency, volume, and consistency of stools  
- Minimize risk of dehydration and electrolyte imbalance  
- Prevent accidental overdosage  
- Monitor for dry mouth  
- Initiate safety measures to prevent falls  
- Monitor electrolyte levels

 Clients Receiving Antidiarrheal Therapy  

**Evaluation**  
- Client reports relief of diarrhea  
- Client accurately states drug’s action and side effects  
- Client accurately states signs and symptoms to be reported