Chapter 11
Digestive System Diseases and Disorders

Anatomy and Physiology

• Two main purposes
  – Changing foods into simpler substances
  – Eliminating waste products
• Alimentary canal - continuous tube running from mouth to anus

Anatomy and Physiology

• Accessory organs
  – Tongue
  – Teeth
  – Salivary glands
  – Gallbladder
  – Pancreas
  – Liver

Common Signs and Symptoms

• Signs and symptoms related to hemorrhage, perforation, and altered motility
• Terms identifying bleeding
  – Hematemesis
  – Hematochezia
  – Melena

Common Signs and Symptoms

• Perforation in stomach or intestines causes peritonitis and septicemia
• Alteration in motility include diarrhea, vomiting, nausea, or constipation
Diagnostic Tests

- X-ray
- Endoscopic exam - EGD
esophagogastroduodenoscopy
- GI series - barium swallow and enema
- Occult blood
- Ova and parasites

Diseases of the Mouth

- Dental caries - disease of teeth where bacteria stick to tooth surface called plaque
- Periodontal Disease - affects supporting structures of teeth such as gums

Diseases of the Mouth

- Periodontal Disease
  - Main cause of tooth loss in adults
  - Poor oral hygiene and inadequate diet
  - Leads to gingivitis - inflammation of gums
  - Prevention: brushing and flossing, regular dental care, adequate diet

Diseases of the Throat and Esophagus

- Pharyngitis
  - Commonly called a sore throat
  - Viral or bacterial
  - Diagnosis is made by throat culture
  - If caused by strep, treated with antibiotics

Diseases of the Throat and Esophagus

- Reflux Esophagitis
  - Inflammation of tissue at end of esophagus
  - Caused by backflow of stomach acids through cardiac sphincter upward into the esophagus
Diseases of the Throat and Esophagus

- Reflux Esophagitis
  - Symptoms
    - Heartburn
    - Burning sensation in the mid-chest or epigastric area
  - Long-term reflux can lead to bleeding, ulceration, and scarring of the esophagus

Diseases of the Throat and Esophagus

- Reflux Esophagitis
  - Treatment
    - Reduce reflux
    - Avoid large meals
    - Avoid spicy foods, caffeine, and tight clothing

Diseases of the Throat and Esophagus

- Reflux Esophagitis
  - Treatment
    - Stool softeners
    - Laxatives
    - Antacids and those that tighten the gastroesophageal sphincter
    - Sleep with head of bed elevated

Diseases of the Throat and Esophagus

- Hiatal Hernia
  - Part of stomach sliding into the chest cavity
  - Increases with age and weakness of cardiac sphincter
  - May be asymptomatic but can be related to reflux

Diseases of the Throat and Esophagus

- Esophageal Varices
  - Enlarged, tortuous veins of the esophagus
  - Usually related to cirrhosis of the liver
  - Common cause is excessive alcohol consumption
  - Hemorrhage is life threatening

Diseases of the Stomach

- Gastritis
  - Inflammation of stomach
  - Symptoms
    - Epigastric pain
    - Bloating
    - Nausea
Diseases of the Stomach

• Gastritis
  – Due to irritating agents such as aspirin, alcohol, coffee, tobacco, or bacterial-laden foods
  – Helicobacter gastritis is caused by small bacteria in stomach lining

• Peptic Ulcer
  – Found in stomach and duodenum
  – Caused in part by action of pepsin
  – Peptic ulcers called gastric ulcers

• Cancer of the stomach
  – Affects more males than females
  – Often goes undiagnosed until it metastasizes
  – Symptoms
    • Loss of appetite
    • General stomach distress
    • Heartburn

• Treatment
  • Reduction of contributory factors
  • Antacids
  • Tagament, Pecid, Zantac
  • Surgery in severe cases

• Prognosis is good if discovered early
Diseases of the Small Intestine

• Malabsorption Syndrome
  – Small intestine unable to absorb nutrients
  – Difficulty absorbing fats and minerals
  – Treatment includes diet therapy
  – Complication is bleeding due to lack of vitamin K absorption

Diseases of the Small Intestine

• Regional Enteritis (Crohn’s Disease)
  – Chronic inflammatory disease most commonly affecting the small intestine
  – Characterized by exacerbation and remission
  – Also called Inflammatory Bowel Disease (IBD)

Diseases of the Small Intestine

• Regional Enteritis (Crohn’s Disease)
  – Symptoms:
    • Anorexia
    • Flatulence
    • Abdominal pain
    • Diarrhea and constipation

Diseases of the Small Intestine

• Gastroenteritis
  – Inflammation of stomach and intestines
  – Causes
    • Bacterial
    • Viruses
    • Parasitic invasion

Diseases of the Small Intestine

• Gastroenteritis
  – Symptoms
    • Nausea
    • Vomiting
    • Abdominal cramping and diarrhea
    • Stomach rumbling and malaise
Diseases of the Small Intestine

• Gastroenteritis
  – Treatment
    • Anti-nausea and anti-diarrheal medications
    • Antibiotics
    • Fluids
    • Nutritional support

• Antibiotics
• Fluids
• Nutritional support

Diseases of the Small Intestine

• Gastroenteritis
  – Prevention
    • Hand washing prior to food preparation
    • Proper refrigeration
    • Avoidance of contaminated food and/or water

• Hand washing prior to food preparation
• Proper refrigeration
• Avoidance of contaminated food and/or water

Diseases of the Small Intestine

• Inguinal Hernia
  – Outpouching of the small intestine and peritoneum into the groin area
  – More common in males

• Proper refrigeration
• Avoidance of contaminated food and/or water

Diseases of the Small Intestine

• Inguinal Hernia
  – Strangulated hernia if portions of the herniated intestine become caught and twisted, cutting off blood supply to organ
  – Treatment is surgical repair

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Diseases of the Colon

• Appendicitis - Inflammation of appendix
  – Symptoms
    • Abdominal pain that shifts to RLQ
    • Nausea
    • Vomiting
    • Fever
    • Leukocytosis

• Appendicitis
  – Treatment
    • Surgical excision hopefully before rupture

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  – Treatment
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Diseases of the Colon

- **Intestinal Obstruction**
  - Inability to move contents through intestine
  - Blockage in intestine, disease, or ileus
  - Blockage may occur from tumors, hernias, twisted colon, adhesions, intussusception, paralytic obstruction

Diseases of the Colon

- **Intestinal Obstruction**
  - Symptoms
    - Mild to severe abdominal pain and distention
  - Nausea and vomiting
  - Treatment
    - Nasogastric suctioning and surgery

Diseases of the Colon

- **Ulcerative Colitis**
  - Chronic inflammation of colon
  - Symptoms
    - Lower abdominal pain
    - Blood in the stools
    - Anemia and diarrhea

Diseases of the Colon

- **Ulcerative Colitis**
  - Treatment
    - Dietary limitations
    - Stress reduction
    - Mild sedatives
    - Anti-inflammatory medications
  - Surgery if treatment is unsuccessful

Diseases of the Colon

- **Irritable Bowel Syndrome (Spastic Colon)**
  - Most common intestinal disorder
  - Inflammation of bowel with chronic lesions
  - Symptoms
    - Abdominal pain
    - Altered motility
    - Diarrhea or constipation

Diseases of the Colon

- **Irritable Bowel Syndrome (Spastic Colon)**
  - Causes
    - Spicy foods and seasonings
    - Caffeine
    - Alcohol
    - Stress
  - Treatment is avoidance of causative factors
Diseases of the Colon

- **Dysentery**
  - Acute inflammation of colon
  - Main symptom is massive diarrhea with blood, pus, and mucous accompanied by severe abdominal pain

- **Diverticulosis/Diverticulitis**
  - Diverticulosis is condition of diverticula or little outpouches
  - Diverticulitis - outpouches become packed with fecal material and become irritated and inflamed

- **Colon Polyps**
  - Inward projection of mucosal lining of colon
  - Diagnosed during a colonoscopy or sigmoidoscopy
  - Suspicious polyps are excisionally biopsied

- **Carcinoma of the colon and rectum - colorectal cancer**
  - Symptoms
    - Change in bowel habits
    - Pencil-sized stools
    - Blood in the stools
    - Anemia
    - Abdominal discomfort and obstruction

- **Dysentery**
  - Treatment is dependent on cause but antibiotics may be used to treat bacterial infection
Diseases of the Colon

- Carcinoma of the colon and rectum
  - Adenocarcinomas are most common
  - Diagnosis
    - Stool exams for occult blood
    - Colonoscopy
    - Barium enema
  - Prevention: diet and stool examinations

Diseases of the Rectum

- Hemorrhoids
  - Varicose veins in rectum - internal or external
  - Causes
    - Pressure in the anal area
    - Constipation
    - Prolonged standing
    - Pregnancy and childbirth

- Hemorrhoids
  - Prevention
    - Stool softening
    - Good bowel habits
    - Fluids and fiber
    - Exercise
    - Avoid laxative use

- Hemorrhoids
  - Treatment
    - Medications
    - Warm sitz baths
    - Manual reduction
    - Cryosurgery and hemorrhoidectomy

Trauma

- Trauma to mouth
  - Due to
    - Motor vehicle accidents
    - Falls
    - Abuse
    - Burns
    - Blunt or perforating injury

- Stomach or intestines
  - Usually due to perforation as result of stabbing or gunshot wound
  - Medical emergency
  - Treatment is usually surgical
Rare Diseases

- Achalasia - disorder of esophagus causing pain with swallowing
- Gluten-Induced Enteropathy - called Celiac Sprue disease
- Intestinal Polyps - benign tumors found along lining of the intestine

Effects of Aging on the System

- Disorders are common
- Decreased sense of taste
- Loss of teeth
- Increased incidence of ulcer disease
- Constipation problems
- Development of hemorrhoids