Disorders of the Esophagus

Congenital Abnormalities
- Types
  - Stenosis
  - Atresia
  - Fistula
- Newborn aspirates while feeding.
- Pneumonia

Achalasia
- Lack of relaxation of cardiac sphincter
  - The default condition is contraction
- Inflammation leads to
  - Scarring and
  - Loss of ganglia cells
- Decreased innervation means no relaxation
- Leads to retention of food, inflammation and more scarring

Not an easy repair
Esophageal Scarring and Ring formation

- Inflammation leads to
  - Scarring and
  - Loss of ganglia cells
  - Decreased innervation means no relaxation
- Leads to retention of food, inflammation, and more scarring

Esophageal Diverticulae

- Traction
- Pulsion
- Magicians

Hiatal Hernia

- Incompetence of diaphragmatic opening
- Portion of stomach is in thorax
- 'Sliding' type ->
- Leads to
  - Regurgitation of food
  - Acid reflux
  - Ulceration

Hiatal Hernia

- "Rolling type
- May lead to gastric mucosal ischemia.
- Ulceration
- GI bleeding

Esophagitis

- Inflammation of mucosa
- Lots of causes
  - Reflux of stomach acid ->
  - Infectious agents
    - Bacteria
    - Viral (HIV)
    - Fungal (HIV)
  - Cytotoxic agents
  - Autoimmune

Barrett’s Change

- Metaplasia of squamous epithelium
  - Columnar epithelium
  - Repeat injury
    - Reflux
- Indicates serious or prolonged damage
- Cancer risk?
Barrett’s Change

Esophageal Varices
- Dilation of esophageal veins, distal 1/3.
- Increased venous portal pressure.
- Cirrhosis
- Life threatening hemorrhage

Esophageal Varices

Esophageal Cancer
- Squamous cell
- Repeat irritation
- Tobacco
- Invasive
- Barrett’s change
  - Adenocarcinoma
Disorders of the Stomach

Gastritis
- Acute
  - Polys
  - ETOH
  - H. pylori
  - Pain
  - Bleeding
- Chronic
  - Mucosal atrophy
  - Mucin cell hyper
  - Lymphocytes
  - Autoimmune
  - B-12 deficiency

Chronic Gastritis
- Helicobacter pylori
  - Gram negative rod
  - Lives on the epithelial surface.
  - Urease destroys mucus
  - Increases acid secretion
  - Reduces duodenal bicarb
  - Intensifies inflammatory response
  - Immunogenic

Peptic Ulcer
- Action of digestion
- Balance between good and evil
- H. pylori
- NSAIDs
  - Aspirin
- Complications
  - Bleeding
  - Perforation
  - Penetration
  - Scarring
- Zollinger-Ellison
  - Gastrin secreting tumor
Stress Ulcers

- This means stress, not surprise (pop quiz)
- Trauma
  - Major
  - Head injury
  - Burns
- Vascular mediated
  - Rearranged blood flow
- Multiple 'erosions'
- Confined to mucosa
- Can bleed seriously

Gastric Cancer

- Adenocarcinoma
- Risk factors
  - Nitrites
  - Smoked foods
  - Chronic gastritis with H. pylori

Linitis Plastica

Small Bowel Disease
Mechanical Problems

Intussusception

Intussusception

Meckle’s Diverticulum

- Congenital diverticulum of the distal small bowel.
- 2 kinds of mucosa
- 2 feet from the ileocecal valve.
- 2 inches in size.
- Twice as common in males.

Problems with a Meckle’s

Vascular Related

- Bowel infarction
- Hemorrhagic
  - Venous
  - Arterial
- Septic shock
- Very painful

Bowel infarction
Infectious Enteritis

- Many agents infect the small bowel.
  - Viral
  - Bacteria
    - Salmonella
  - Parasites
    - Unicellular
    - Giardia
    - Multicellular
    - Worms

Non-infectious Inflammatory

- Crohn’s disease
  - Granulomatous enteritis
  - Transmural inflammation
  - No known infectious agent
  - Granulomas in about 40%
  - Fistula formation
  - Relapsing
  - Small bowel or colon
  - Ethnicity
  - No significant increased risk of cancer (minimal at best)

Crohn’s Disease

- Transmural inflammation
- Scarring and stricture formation
- Fistulae

Crohn’s Microscopic

- Granulomas about 40% of the time.
- Transmural all the time

Colonic Disease
Hirschprung’s Disease
- Aganglionic segment
- Peristalsis stops
- Dilation of colon backstream of the defective segment.
- Remove distal portion that looks healthy.
- Look for ganglia.

Ulcerative Colitis
- Mucosal
  - Crypt abscesses
  - Autoimmune element?
- Starts in rectum and works its way back.
- Pseudopolyps
- Toxic megacolon
- Increased cancer risk

Crypt Abscess

Diverticulosis

Diverticulitis
Colonic Polyps

- **Familial Polyposis**
  - Millions of adenomatous polyps
  - Genetic predisposition
  - 100% of chance of cancer

- **Colon Cancer**
  - Right and left side have different presentations
    - Right = anemia
    - Left = bowel changes
  - Contributing factors
    - Genetics
    - Dietary fiber
    - Dietary fat
  - Spread
    - Liver
    - Lymph nodes
Genetics of Colon Cancer

Appendicitis

Inguinal Hernia

Direct Abdominal Hernia