Gastrointestinal Disorders

Disorders of the Esophagus

Congenital Abnormalities

- Types
  - Stenosis
  - Atresia
  - Fistula
  - Newborn aspires 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
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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 epi
  - Repeat injury
    - Reflux
    - Indicates serious or prolonged damage
    - Cancer risk?
Barrett's Change

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

Esophageal Varices

- 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
Good and Evil

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

Gluten Enteropathy
Colonic Disease

Hirschprung’s Disease
- Aganglionic segment
- Peristalsis stops
- Dilation of colon back stream 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

- Millions of adenomatous polyps
- Genetic predisposition
- 100% chance of cancer

Familial Polyposis
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

- Colon Cancer
- Appendicitis
- Inguinal Hernia

Appendicitis

- Obstruction of mouth of appendix
  - Fecolith
  - Enlarged lymph nodes
- Bacteria proliferate and invade wall.
- Rupture
  - Peritonitis
  - Abscess
Direct Abdominal Hernia