Stomach & Spleen
Thursday, January 10, 2008
1:00 PM

**Stomach:** (N 267)
- Cardia - area around opening of esophagus
- Body - part of stomach between fundus and pylorus, mucosal surface near lesser curvature has gastric folds
- Fundus - expanded superior part of stomach above entrance of esophagus, may contain gas bubbles in x-rays of patients filmed in a standing position
- Gastric rugae (N 268) - fold in mucosal lining of stomach
- Greater curvature - left/inferior/convex border of stomach
- Lesser curvature - right/superior/concave border of stomach
- Pyloric antrum - path from body to pylorus
- Pyloric sphincter (N 268, 269) - muscular thickening from pylorus to duodenum
- Pylorus - constricted lower part of stomach
- Pyloroduodenal junction (N 268, 269) - kind of self explanatory

**Abdominal esophagus** (N 228, 267) - connects: superiorly with laryngopharynx at lower border of cricoid cartilage; inferiorly through diaphragm at T10 to reach the stomach; upper 1/3 skeletal muscle innervated by the recurrent laryngeal, lower 2/3rds smooth muscle innervated by the vagus nn. via the esophageal plexus

**Spleen** (N 264, 265, 267, 289): lymphatic organ suspended within greater omentum in upper left quadrant; connected to greater curvature of stomach by gastrosplenic ligament; connected to left kidney by splenorenal ligament; attached to left colic flexure; covered by visceral peritoneum on all surfaces

**Peritoneum:**
- Greater omentum (from dorsal mesogastrium) (N 261): apron like specialization of peritoneum attaching along grater curvature
  - Gastrocolic lig. (N 261, 264) - connects greater curvature with transverse colon
  - Gastrosplenic lig. (N 264) - connects greater curvature with hilum of spleen
  - Splenorenal lig. (N 264) - connects spleen to post ab wall over left kidney; contains tail of pancreas
  - Omental apron (N 261) - part of greater omentum that hangs inferiorly from transverse colon
- Lesser omentum (from ventral mesogastrium) (N 267) - peritoneum stretching from lesser curvature to visceral surface of liver
  - Hepatogastric lig. - connects liver to lesser curvature
  - Hepatoduodenal lig. - connecter liver to 1st part of duodenum
- Omental (epiploic) foramen (N 264, 267) - passageway between greater and lesser peritoneal sacs located posterior to hepatoduodenal ligament and first part of duodenum and anterior to the caudate lobe of the liver
- Omental bursa (lesser sac) (N 264, 265, 335, 336) - part of peritoneal cavity located posterior to the stomach and lesser omentum, continuous with greater peritoneal sac at the omental foramen; aka lesser peritoneal sac

**Celiac trunk:** (N 255)
- Left gastric a. (N 290) - from celiac artery; supplies part of stomach near lesser curvature; anastomoses w/ right gastric artery on lesser curvature and esophageal branches of thoracic aorta
  - Gastric br.
  - Esophageal br.
  - Hepatic(?) br.
- Common hepatic a. (N 290) - from celiac a.; supplies liver, upper parts of duodenum, pancreas, right side of stomach and some foregut derivatives
Proper hepatic a. - supplies liver and lesser curvature of stomach
  Right gastric a. - inferior part of stomach near lesser curvature; anastomoses w/ left gastric
Gastrroduodenal a. - supplies upper duodenum, upper part of head of pancreas, greater curvature of stomach on the right
  Posterior & anterior superior pancreaticoduodenal aa. (N 290,292) - supplies the head of pancreas and upper part of duodenum
  Right gastro-omental (-epiploic) a. - supplies lower part of pylorus, right part of greater curvature, greater omentum, anastomoses w/ left gastro-omental
    Gastric brs. - branches to the stomach
    Omental brs. - branches to the omentum
Splenic a. (N 291) - branches off celiac trunk to supply spleen, pancreas, greater curvature of stomach; passes deep to the stomach
  Splenic brs. - branches from splenic a. to spleen
  Short gastric aa. - supply fundus and upper part of stomach near greater curvature, passes through gastrosplenic lig.; 4-5 in number
  Left gastro-omental (-epiploic) a. (N 290,291) - supplies mid-part of stomach near greater curvature and greater omentum; anastomoses w/ right gastro-omental
    Gastric brs.
    Omental brs.

Veins:
  Portal v. (N 299,302) - formed by union of superior mesenteric and splenic v. along w/ posterior superior pancreaticoduodenal, right gastric, left gastric; drains into right and left branches before entering liver into liver sinusoids; drains all of gut and glands; connects w/ vena caval drainage at the esophagus, rectum, umbilicus, retroperitoneal gut structures; portal v. courses between two capillary beds (gut and liver)
    Coronary v. - circle formed by left and right gastric v.
      Left gastric v. - esophageal and gastric branches unite; drains into portal v.; drains lesser curvature of stomach and lower part of esophagus; communicates w/ esophageal vv. to form portal-caval anastomosis
      Right gastric v. - drains lesser curvature of stomach

Nerves:
  Anterior vagal trunk (N 236,309) - formed by fibers of esophageal plexus from left vagal nerve and running anterior to esophagus on lesser curvature; parasympathetic innervation of viscera
    Gastric brs.
    Hepatic brs. - travels in upper portion of hepatogastric ligament
  Posterior vagal trunk (N 310) - formed by fibers of esophageal plexus from right vagal nerve and running posterior to esophagus on lesser curvature; parasympathetic innervation of viscera
    Gastric brs.
    Celiac brs. - deep to hepatogastric ligament
  Celiac plexus (N 309,310,311) - preganglionic sympathetic axons arrive via greater thoracic splanchnic n. and synapse; postganglionic sympathetic nerves distribute via celiac plexus along branches of celiac a.; supplies vascular smooth muscle of brs. of celiac trunk and senses pain of viscera; ganglia located on abdominal aorta at origin of celiac trunk; branches of vagal n. pass through w/o synapsing

Miscellaneous:
  Common bile duct (N 280,285,290,292) - in hepatoduodenal ligament; transmits bile from gall bladder to duodenum running behind stomach
  Lymphatics (N 258,304,307) - all over the place

Clinical Terms:
  Gastric & duodenal ulcers - local defect of surface of an organ or tissue produced by sloughing off of inflammatory necrotic tissue; H. pylori plays important role; present w/ epigastric pain from food in stomach for gastric ulcers or lack of food for duodenal ulcers as well as satiety and
nausea
Vagotomy - cutting of vagus n.; bilaterally can lead to decreased motility of stomach and intestine, decreased gastric secretions, decreased tone of gallbladder and bile ducts, increased tone of sphincters
Gastrectomy - removal of all or part of stomach in some cases of intractable gastric ulcers or cancer
Splenectomy - removal of spleen; sometimes done in leukemia or lymphoma; capsule may rupture in trauma
Splenomegaly - enlargement of spleen
Pyloric stenosis - congenital thickening/narrowing of gastric outlet; more common in males; projectile non-bilious vomiting several weeks after birth; treated by pyloromyotomy where pylorus is cut all the way down to mucosa to relieve pressure