ESOPHAGEAL CANCER

Risk factors for Esophageal CA:
- Age (>65)
- Male
- Tobacco
- Alcoholism
- Obesity (more so in adeno)

Other: HPV, Diet, H pylori, achalasia, tylosis, Barrett's*

SQUAMOUS CELL CARCINOMA (SCC)

- Originates from mucosal layer. Usually occurs from mid to upper esophagus. 50% midesophagous; 50% distal.
- 6x more likely in black men than white men.
- Risk factors: tobacco, ETOH, prior H&N cancers

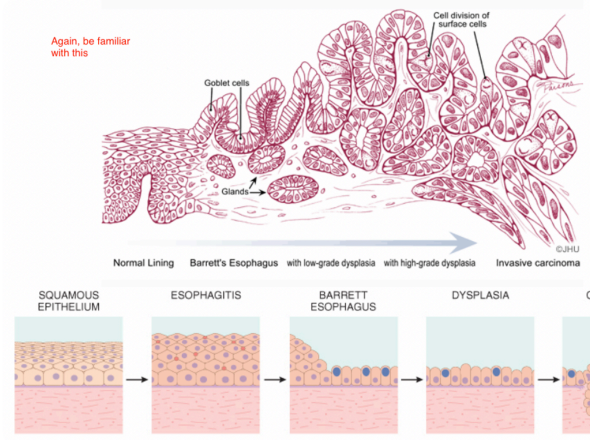
ADENOCARCINOMA *rapid rise in incidence*

- Originates from glandular cells of sub mucosa; squamous cells are replaced by glandular cells.
  - Usually occurs near the stomach.
- Associated with Barrett's, GERD, and hiatal hernia.
- Location: 75% distal, 25% upper and midesophagous.

BARRETT'S ESOPHAGUS

- 10% of people with GERD have Barrett's (GERD associated with high BMI).
- Squamous cells replaced with glandular cells.
- 30-125x ↑ risk for adenocarcinoma! ∴ Require endoscopy every 3 years.

Reflux Esophagitis → Intestinal Metaplasia (Barrett's) → Dysplasia → Invasive Adenocarcinoma



- Signs & Symptoms:
  - Dysphagia / Odynophagia
  - Cough / Hoarseness (laryngeal nerve)
  - Weight loss
  - Use of EtOH or tobacco
  - History of GERD
  - Chest or epigastric pain
  - * Often asymptomatic in early stages

- Diagnostic Work-Up: (initial tests)
  - Barium Swallow
  - Endoscopy and biopsy

Staging Exams thereafter: CT chest/abdomen, Bronchoscopy, PET scan, MRI, bone scan, laparoscopy

- Metastatic Patterns:
  - Local Spread → lymph nodes & surrounding organs
  - Distant Metastases → liver, lung & pleura, stomach, peritoneum *MC*

* NCCN Esophageal Staging: TNM used
  - Squamous vs. Adenocarcinoma: Squamous staging adds location. 5 year survival rates decrease as staging (distance of metastases) increases.

- Management: Chemoradiation *gs*
  - Surgery alone is for early stages only.
  - Chemotherapy: pre and post-op. Used alone in locally advanced SCC.
  - Radiation: alone → when tumor is locally advanced. Palliative for symptom management.

GASTRIC CANCER

ADENOCARCINOMA * 85% of stomach cancers *

- Linked to chronic H. pylori infection, tobacco, EtOH, nitrates in smoked & salted fish (↑ prevalence in Japan), occupational exposures.
- Two categories:
  1) The diffuse, infiltrating type causes linitis plastica or "leather bottle stomach"; the stomach stiffens & loses distensibility.
  2) The intestinal type forms glandlike tubular structers, often with rolled edges surrounding a central ulceration.
- Spreads by direct extension through the gastric wall to the pancreas, colon, and liver.*mc* Also spreads via lymphatics or seeding of peritoneal surfaces.

- Signs & Symptoms:
  - Upper abdominal pain that varies in intensity; occasional dysphagia; indigestion, early satiety.
  - Anorexia / Weight loss
  - The presence of Fe-deficiency anemia in men & post-menopausal women, and occult blood in the stool of both sexes mandates a search for an occult GI tract lesion.

- Diagnosis: All pts. with gastric ulcer require upper endoscopy with biopsy.
  - Double contrast barium UGI

- Treatment:
  - Complete surgical removal of the tumor w/ resection of adjacent lymph nodes offers the only chance for cure.
  - Radiation has limited use; mostly palliative.
  - Chemotherapy (5FU-based), especially combined w/ surgery & radiation, can reduce the recurrence rate and prolong survival.

COLORECTAL CANCER

* Most arise from adenomatous polyps. Once found, all polyps are removed & biopsied. Colonoscopy repeated x3y.

- 3rd leading cause of cancer; higher prevalence among African Americans.
- Risk factors: Age >50, obesity, diabetes, smoking, EtOH, IBD, previous cancerous polyps, family history.

Familial Adenomatous Polyposis (FAP) [aka Gardners Syndrome]

- Gene mutation that causes 100s of polyps by mid-20s. Rare.

Hereditary Nonpolyposis Colorectal Cancer (HNPCC) [aka Lynch Syndrome]

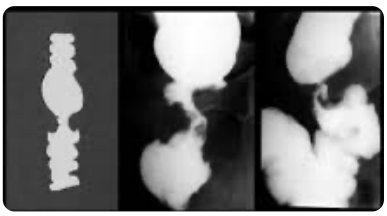
- Gene mutation that has average age of onset of 44.
- ↑ risk of other cancers.

Guidelines for *Asymptomatic* Patients at Average Risk

Beginning at age 50, men and women should recieve:

- A flexible Sigmoidoscopy every 5 years.
- Colonoscopy every 10y.
- Double-contrast barium enema every 5y.
- CT colonography every 5y.
- Guaiac-based fecal occult blood test every year.

Colon cancer has characteristic "apple core" or "napkin ring" configuration.



- **Signs & Symptoms:**
  - Persistent abdominal discomfort
  - Changes in bowel habits / mucous discharge / diarrhea
  - Rectal bleeding / blood in stool / bright red *MC*
  - A feeling that your bowel doesn't empty completely
  - Unexplained weight loss
  - Fatigue
  - Anemia
  - Tenesmus (spasmodic contraction)

Prognosis is not based on size of lesion, but on depth of tumor penetration into the bowel wall and presence of both regional lymph node involvement and distant metastases.

- **Diagnostic & Lab Procedures:**
  - Barium enema
  - CT / PET / MRI
  - Colonoscopy, Sigmoidoscopy, Protoscopy
  - Hematocrit
  - LFTs
  - Carcinoembryonic Antigen (CEA) * = monitors for response to therapy and recurrence - not presence of cancer.

- **Treatment:**
  - Surgery is primary. → Laproscopic-assited colectomy; Hemicolectomy; Debulking
    - If Stage I & II - surgery only
    - If Stage III & IV - surgery and chemo
  - Radiation mostly for palliative

HEPATOCELLULAR CARCINOMA

- Relatively uncommon in U.S.; associated with cirrhosis in general and hepatitis B and C. Chronic liver disease, alcoholic liver disease, and hormonal factors can all play a role.

- **Signs & Symptoms:**
  - Cachexia, weakness, weight loss, bloody ascites
  - Tender enlargement of the liver (hepatomegaly), occasionally with a palpable mass.
    - Bruit or friction rub over the mass may be present.

- **Diagnostic Tests:**

Labs:
- Leukocytosis (instead of leukopenia typically found in cirrhosis)
- Elevated serum alkaline phosphatase
- Elevated alpha-fetoprotein (AFP) levels in up to 70% of patients.

Imaging:
- Ultrasound is an appropriate screening tool
- Best test: helical (spiral) CT w/ & w/o IV contrast
- MRI is alternative

- ***Treatment:***
  - Surgical resection offers the only chance for a cure, but most patients are not candidates - either due to underlying cirrhosis, large tumor, or distant metastasis.
    - Liver transplant may be an option for some.
  - Radiation & chemotherapy may prolong survival.

PANCREATIC CANCER

- ↑ incidences in U.S.A. ; Black people > risk
- At the time of diagnosis , >50% have distant metastases.
- Risk factors: Age >55, smoking, obesity, Type II DM, cirrhosis, chronic pancreatitis, H. pylori infection.

- Signs & Symptoms:
  - Early signs mimic general GI disorders
  - Late signs:
    - Abdominal & back pain = dull / constant, radiates to mid or upper back, worse while supine.
    - Weight loss & poor appetite = pale / bulky / greasy stool that may float, N/V
    - Jaundice, ascites
    - DVT / PE
    - Fatigue, depression

- Diagnostic Tests:
  - CT / PET
  - Endoscopic US
  - ERCP / MRCP - if ERCP unavailable
  - Total bilirubin
  - Liver enzymes

- Treatment:
  - Chemotherapy used at all stages
  - Targeted therapy
  - Radiation has limited use.
  - Surgery (Whipple Procedure)

* One of the poorest 5 yr. survival rates of any cancer.