Esophagus
Objectives

- Describe anatomic and physiologic factors predispose to reflux esophagitis
- Symptoms of reflux esophagitis
- Describe hiatal hernia (types)
- Describe indications for operative management.
Objectives

- Describe achalasia
- Radiologic findings and evaluation
- Esophageal diverticula
- Cancers
- Perforations
Anatomy

- Originates where?
- Traverses what to get to ABD?
Anatomy

- Layer of esophagus
- Muscles
Sphincters

- Sphincters
- Where and how many?
Upper Sphincter

Circular esophageal muscle
Cricoid cartilage (posterior surface)
Tendinous attachment of longitudinal esophageal muscle
Posterior cricoarytenoid muscle
Inferior pharyngeal constrictor muscle
Pharyngeal aponeurosis (cut away)
Zone of sparse muscle fibers (Killian’s triangle)
Cricopharyngeus muscle (part of inferior pharyngeal constrictor)
Esophageal mucosa and submucosa
Circular muscle in V-shaped area (of Laimer)
Right recurrent laryngeal nerve
Longitudinal esophageal muscle
Window cut in longitudinal muscle exposes circular muscle layer

Posterior view with pharynx opened and mucosa removed
Lower Sphincter

- Purpose to prevent gastric reflux
- Resting pressure
History and physical

- What questions?
Presentation

- Dysphagia
- Odynophagia
- Globus hystericus
- Heartburn
- Regurgitation
- Vomiting
- Recurrent bronchitis or pneumonia
- hiccups
Physical and tests

- Physical of the esophagus?
- What tests?
Diagnostic Studies

- CXR
- Barium swallow
- CT
- Esophagoscopy
- Manometry and fluoroscopy
- pH monitoring
Hiatal Hernia

- What are the major types?
- Which is the most common?
Types of hiatal hernias

A

GE junction

B

GE junction

C

GE junction
Pathophysicsology

- Loss of anatomic relationship
- Reflux
- Barrett’s esophagus
- Shortened IA esophagus
Barrett’s esophagus
Presentation

- Burning epigastric pain or tightness
- Lump or food stuck
- Alcohol, ASA, tobacco, caffeine, chocolate
- Aspiration pneumonitis or asthma or laryngitis
- Dysphagia, bleeding, respiratory distress
Diagnosis

- Barium swallow
- EGD
- Schatzki ring
Medical Treatment

- 80% respond
- Avoidance
- Tight garments
- Antacids
- Abstinence prior to sleep
- Elevated HOB
- Weight loss
Surgical Treatment

- Correct anatomic defect
- Transthoracic or transabdominal
- Complications- gas-bloat syndrome
- Prognosis- 90% relief of symptoms
Achalasia

- Failure to relax
- Distal esophagus
- Chagas disease (trypanosomiasis)
- Presentation- dysphagia, regurgitation, weight loss
- Liquid to force food down
- Aspiration pneumonia
Achalasia

- Dx- contrast studies
- Manometric pressures show tertiary waves with diffuse spasm
- Treatment- medical not helpful
- Treatment- surgical 95% complete relief
Medical treatment

- Balloon dilatation
- Rupture the circular muscle
- Complication - perforation
Surgical Treatment

- Heller myotomy - distal 5 cm of esophagus and extend 1 cm onto stomach.
- Modified fundiplication
Diverticula

- Outpouching of all or part of the wall.
- Types - traction and pulsion
- At any level
Zenker’s Diverticula

- Pulsion
- Dysfunction of cricopharyngeal muscle
- Between oblique fibers of thyropharyngeal muscle and cricopharyngeus
- Elderly
Zenker’s

- Regurgitation, choking, putrid breath odor
- Treatment – myotomy of cricopharyngeal ms and excision or elevation of diverticulum
Traction diverticula

- Middle third
- Mediastinal inflammation
Neoplasms

- Benign - rare
- Lieomyomas
- Excision to eliminate tumor growth

Malignant
- Squamous carcinoma - 85%
- Adenocarcinoma - 10%
- Sarcomas
- Lymphoma
Presentation

- Insidious onset precluding early dx
- Dysphagia - solids first then liquids
- Retrosternal pain, odynophagia
- Constant pain in back and chest
- Hoarseness
- 75% positive nodes at presentation
neoplasms

- Dx- ragged edge, shelf or apple core appearance
- Upper GI series follow by EGD
- CT- extranodal mets
- EUS staging
Prognosis

- SCC and adenocarcinoma very poor prognosis
- Seldom exceeds 20%
- Cure rate 5%
Traumatic

- Perforations
- Most instrumentation
- Boerhaave’s syndrome

- Ingestion acid or alkaline products
- Alkaline- deep penetration and liquefactive necrosis
- Acid – coagulative necrosis
Treatment

History of caustic ingestion
  Acid/alkali
  Solid/liquid

CBC
  Electrolytes
  Chest/abdominal
  X-rays

Neutralization
  (within 1 hr of ingestion)

Esophagoscopy

1st degree
  (erythema only)

No treatment
  OBS 24-48 hr

2nd degree
  (ulceration)

No perforation

Questionable viability
  esophagus/stomach

Second look
  at 36 hr

3rd degree
  (necrosis)

Perforation or
  Full thickness necrosis
  of esophagus/stomach

NPO
  IVF
  Antibiotics
  H2-receptor antagonist
  PPI, antacids

Hoarseness
  Stridor
  Dyspnea

Intubation
  +/- steroids

Transhiatal esophagectomy
  Resection of all damaged tissue
  ± Gastric resection
  ± Gastrostomy
  Cervical esophageostomy
  Feeding jejunostomy

Barium swallow
  at 24 hr

Observe for stricture formation

Dilation
  Stent
  Jejunostomy
  Nasogastric string retrograde
dilation
Questions