Esophageal Dysphagia

From Pediatrics to Geriatrics: 
A Speech Pathologist’s Perspective 
Presented by: 
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I. Anatomy of Esophagus

- 20-25 cm in length
- ~10 cm at birth
- 12 cm @ 14 months
- 14 cm @ 3 yrs
- 16 cm @ 5 yrs
- 20 cm @ 14 yrs

- By 4th week gestation, a short tube from the pharynx to the stomach is formed. 5th week, stomach is distinct from the esophagus.
- Proximal 1/3 is striated muscle
- Distal 2/3 is smooth muscle
Anatomy and Physiology, cont...

- Circular muscles - peristalsis
- Smooth/longitudinal muscles - shortening
- Innervation: CN X
  - Recurrent laryngeal nerve supplies upper esophagus
- Transit time:
  - Esophagus: 8-20 sec
  - Stomach: 2-6 hrs
  - Small intestine: 3-5 hrs
  - Large intestine: 3-10 hrs
1. Cervical Esophagus

- Begins at UES at C5-6 level, and ends at thoracic inlet (T1 level)
- UES includes fibers of c-p muscle, inf pharyngeal constrictor, uppermost esophagus fibers (2-4 cm)
- UES motor nerve supply is via pharyngeal branch of the Vagus nerve
- Normal UES opening depends on:
  - Muscle tone
  - Muscle contraction
  - Traction force
  - Propulsion force of the bolus
Cervical Esophagus, cont...

- UES relaxation lasts .5-1.0 seconds and is followed by peristaltic contraction
- Cervical Esophagus has normal curvature to left in inferior part of neck (seen a-p)
- Cervical Esophagus lies against vertebral column
- AKA “proximal” esophagus
- Stress may have effect on UES (increased pressure)
2. Thoracic Esophagus

- Extends inferiorly to the stomach
- AKA “distal” esophagus, “body of esophagus”
- Ends at LES
  - LES is 1-4 cm in length
  - LES = rings of circular muscle fibers, tonically contracted
  - Termination of the lower esophagus attaches to stomach via circular muscle rings
  - Prevents reflux at rest
  - LES relaxation delayed 2-3 seconds post initiation of swallow, and lasts 5-10 seconds
II. Motility of the Esophagus

1. Peristaltic waves: shortening of longitudinal muscles and contraction of inner circular muscles.

**coordination/rhythmical/serial contractions of smooth muscle

A) Primary
- Initiated by swallowing
- Continues to LES
- Transports the bolus

B) Secondary
- Initiated by retained material
- Clears esophageal residue “escape”
Motility of Esophagus, cont…

2. Non-peristaltic waves:
   A) Tertiary waves - more common with aging (presbyesophagus)
      ▶ Segmental contractions
      ▶ Scattered along esophagus

* proximal-distal movement: 2-4 cm/second with liquids
III. Symptoms of Esophageal Dysphagia

- Difficulty swallowing solid > liquid
- Temperature related complaints
- “lump in throat meal” sensation (globus)
- Gagging/coughing after or at night
- Sour taste in mouth
- Burning in chest or throat mimicking angina pectoris
- Esophageal pain/pressure
- Weight loss
- Odynophagia
Symptoms, cont…

- Chest pain
  - Heart and esophagus have similar neural pathways for pain. Cardiac and esophageal plexus arise from CN X and sympathetic trucks. Therefore, esophageal pain may be confused with pain originating in the heart.
  - 60% of CP of nonspecific origin = esophageal motility disorder
Symptoms, cont...

- Dysphagia with solids and liquids intermittently, think MOTOR disorders
- Dysphagia with solids only, think STRUCTURAL disorder
IV. Diagnostic Tests

- 80-85% correlation between thorough history and correct diagnosis
- Diagnostic tools are only used to support suspected diagnosis
- 94% correlation between radiologic and manometric diagnostic tool used for esophageal dysphagia
Diagnostic tests, continued

1. Videofluoroscopic Swallow Studies:
   - Anterior -posterior plane and lateral plane
   - Challenge patient with large bolus amounts, if appropriate
   - Use non-standard material, i.e. marshmallows, barium tablets, table food
   - SLP with Radiologist
Diagnostic Tests, continued

2. Esophogram/Barium Swallow Study
   - Prone/supine position
   - Assesses esophageal peristalsis
   - Facilitates esophageal distention, to exclude structural lesions
   - Uses “nectar” thick liquids
   - Radiologist
Diagnostic Tests, continued

3. Endoscopy/Esophagoduodenoscopy (EGD)
   - Direct visualization of esophagus with endoscope
   - Assesses structural abnormality, mucosal disease, severity of esophagitis
   - Used with dilatation and biopsy
   - Gastroenterologist
4. Manometry
- transnasal or transoral placement of small catheter with pressure sensitive orifices to measure intraluminal pressure in response to swallowing water (or dry swallows)
- Measures UES/LES pressure, peristalsis, contraction
- Normal ranges for different labs
- Gastroenterologist
- Technically difficult with pedi, can be used with adaptive techniques and instrumentation
Diagnostic Tests, continued

5. other Esophageal Tests:
   A) 24 hr pH monitoring - suspected reflux
   B) Bernstein’s Acid Perfusion Test - reflux
   C) Electromyographic Recordings - muscle abnormality
   D) Esophageal ultrasound - structural abnormality
   E) CT scan of chest - structural abnormality
   F) Radionuclide Transit Measurement - abnormal peristalsis
V. Causes of Esophageal Dysphagia, overview

- Congenital - esophageal atresia
- Inflammatory - Esophagitis, ulcer
- Autoimmune - Collagen Vascular Disease
- Neoplastic - Benign/malignant tumors
- Traumatic - Caustic burns, foreign bodies
- Vascular - Esophageal varices
- Endocrine - Diabetic Neuropathy
Causes of Esophageal Dysphagia, Overview, continued...

- Neurologic - Vagus nerve lesions
- Drugs - post radiation, drugs causing reflux (ETOH, Caffeine, Nicotine) drugs causing ulcerative esophagitis (anti-bx, analgesics)
- Other - idiopathic spasm, Achalasia, Extrinsic compressions, presbyesophagus, Hiatal Hernia, functional globus hystericus
VI. Esophageal Motility Disorders

- Most underlying pathologic etiologies remain unclear
- Treat only if problem is symptomatic
- VFSS and Esophogram Dx can be made interchangeably if esophogram uses more solid materials
- Pediatric patients: premature babies - decreased developed suck, therefore delayed c-p opening, could lead to decreased/disorganized peristalsis
Esophageal Motility Disorders
1. ACHALASIA

- Can present in childhood
  - Adult incidence - 1: 100,000/year
  - Pedi incidence - 5% of total cases (under 14 yrs). 1-3: 1,000,000/year (56% are > 6 yrs old; 20% are infants/toddlers)

- Etiology unknown. Seems to imply defective innervation of esophageal musculature
Esophageal Motility Disorders
ACHALASIA, cont…

• SYMPTOMS:
  • Progressive dysphagia with solids and liquids
  • 30-50 yrs old
  • Exacerbated by stress
  • Weight loss, 50% with chest pain, 5 years with symptoms
  • PEDI: age specific symptoms - vomiting, food refusal, anorexia in adolescent girls, feeding difficulty with solids introduction. Some cases of SIDS related to Achalasia - asphyxia secondary to tracheal compression of dilated esophagus
Esophageal Motility Disorders, ACHALASIA, cont…

- **DIAGNOSIS:**
  - MBS - stasis of bolus in progressively dilating esophagus
    - distal end smoothly tapers off “bird beak”
    - Absent peristalsis
    - Absent or incomplete LES relaxation
  - Manometry - types:
    - 1. classic (advanced): no response of esophageal body to swallowing
  - Endo
    - r/o malignancy
Esophageal Motility Disorders, ACHALASIA, cont…

▶ THERAPY: Treatment effective in 70-90% of pts
  ▶ Motility medications
  ▶ Dysphagia recommendations
  ▶ LES dilatation (35-100% of children, under general anesthesia)
  ▶ Heller’s esophagocardiomyotomy (severing LES muscle) (with pedi improves fx in 84% of children, increases GER 3-52%)
  ▶ Infants: functional obstruction may be transient
  ▶ Botox into LES - adults

▶ Secondary Achalasia/Pseudoachalasia: development of Achalasia as a result of underlying disorder (ie malignancy). CA of distal esophagus, gastric/cardiac mass, M>F, 40-60 yo. Short duration, wt loss > 15 lbs
Esophageal Motility Disorders:
2. Diffuse Esophageal Spasm

- **Def**: severe esophageal motor disorder with preservation of some peristalsis and some LES relaxation. “corkscrew esophagus”

- **Symptoms**: Intermittent chest pain with/without Dysphagia; cold/carbonated beverages, exacerbated by stress

- **Diagnosis**: MBS - segmental, repetitive contractions of esophageal body; MANO - nonperistaltic high amplitude contractions; normal LES pressure and function; ENDO - thickened esophageal wall

- **Therapy**: Motility meds; dysphagia recs; dilatation 45% relief
Esophageal Motility Disorders:
3. Nutcracker Esophagus

- **Df:** ill-defined motility disorder
- **SYMPTOMS:**
  - Chest pain
  - Dysphagia with solids
- **DIAGNOSIS:**
  - **MBS** - hypertensive esophageal body (closed, straight, tense esophagus)
  - **MANO** - decreased peristalsis; hypertensive esophageal body
- **THERAPY:**
  - Motility meds; dysphagia recs; dilatation?
Esophageal Motility Disorders:
4. Presbyesophagus

• Df: Dysmotility secondary to old age (80-90 yo)
• SYMPTOMS:
  • “lump in throat” sensation
• DIAGNOSIS:
  • MBS - esophageal escape “residue”
  • MANO - decreased peristalsis, increased tertiary contractions, occasional LES dysfunction
• THERAPY:
  • Motility meds; dysphagia recs
Esophageal Motility Disorders:
5. Gastroesophageal Reflux

- **Df**: a backward flow of the contents of the stomach into the esophagus that causes heartburn

- **SYMPTOMS**:
  - pulmonary: wheezing, coughing, sleep apnea
  - ENT: hoarseness, sore throat, globus
  - Dental: gingivitis, bad breath, enamel pits
  - Gastric: early satiety, nausea, bloating, heartburn, burning in back of throat, water brash, dysphagia, regurgitation, hematemesis, non-cardiac chest pain, nocturnal cough, persistent hiccups
Esophageal Motility Disorders: GER, cont...

- **DIAGNOSIS:**
  - MBS - GER, esophageal-pharyngeal reflux
  - MANO- reduced resting LES pressure; increased number of reduced amplitude contractions
  - ENDO - severity of esophagitis
  - Bernstein Acid Test - acid induced angina-like pain; normal peristaltic activity
Pathophysiology of GER

1. external factors: food, medications, smoking (decreased LES pressure, direct irritant)
2. Saliva: volume ↓, Bicarbonate ↓
3. Esophageal transit: ↓amplitude/coordination of contractions
4. Esophageal mucosal resistance
Esophageal Motility Disorders: GER, continued...

- **THERAPY:**
  - Medications to control acid reflux
  - Dysphagia recs; behavior modifications
  - Surgery ie fundoplication

- Associated problems: Scleroderma (reduced peristalsis in lower ½; hypotensive or absent LES action); peptic stricture, erosive esophagitis, hemorrhage, Barret’s esophagus, Respiratory tract complications
Esophageal Motility Disorders: PEDI GER

• Infants: incoordination of GI tract, most eventually outgrow
• More common in infants with developmental disability vs neurologically normal
• Occasional GER is considered normal
• Abnormal if too much or with accompanied symptoms
Esophageal Motility Disorders: PEDI GER, cont...

- Symptoms in infants:
  - gagging; choking
  - Gas, abdominal pain
  - Frequent/recurrent vomiting > 90% with GER

- Therapy
  - 6 months starts to resolve
  - 12 months disappears
Esophageal Motility Disorders: PEDI GER, cont...

- Positioning: on stomach, right side ~ 30 degrees
- Dietary: thickened feeds
- Change feed schedule ~ less food, more often
- Meds: to break down gas, ↓ acid, ↑ coordination
- Surgery: Nissen Fundoplication (1937) - stomach wrapped around bottom of esophagus
Esophageal Motility Disorders: 
6. Carcinoma

• **SYMPTOMS:**
  • Men over age 60
  • Substernal discomfort
  • Intermittent dysphagia “something stuck in throat”
  • Alteration in eating habits
  • Weight loss
  • odynophagia
Esophageal Motility Disorders: Carcinoma

**DIAGNOSIS:**
- MBS - intrinsic compression, luminal narrowing
- ENDO - biopsy, mucosal destruction

**THERAPY:**
- Radiation, chemo
- Surgery
- Poor prognosis - end stage cancer

Associated problems: TEF
Esophageal Motility Disorders:
7. Nonspecific Motility Disorders

- Includes most abnormalities (hypertensive/hypotensive LES)
- May be related to DM, PD, intestinal pseudo-obstruction, Raynaud's phenomenon, connective tissue dx
- Often asymptomatic
- No specific treatment
Esophageal Motility Disorders: Non-specific Motility dx, cont...

- **Hypertensive LES**
  - “incomplete LES relaxation”
  - Narrowing of G-E junction
  - Occurs with Achalasia, nutcracker esophagus
  - Can be isolated
  - 30-40% complain of intermittent dysphagia

- **Hypotensive LES**
  - “complete LES relaxation”
  - Seen with Reflux-esophagitis and motor dysfunction
  - Sphincter function weakened inherently or secondary to Scleroderma, surgery or medication

![Diagram of esophagus showing hypertensive and hypotensive LES](image-url)
VII. Esophageal Structural Abnormalities

- Most underlying pathologic etiologies remain unclear
- Treat only if problem is symptomatic
- MBS and Esophogram Dx can be made interchangeably if Esophogram uses more solid materials
Structural Abnormalities
1. Strictures

- **Df:** benign esophageal narrowing due to inflammed scar tissue
- **SYMPTOMS:**
  - Intermittent dysphagia with solids
  - Heartburn with chronic antacid use
- **DIAGNOSIS:**
  - BA SW - smooth narrowing of variable length in lower 1/3 (Barrett’s esophagus if located higher)
  - ENDO - r/o malignancies
Structural Abnormalities
Strictures, cont...

• THERAPY
  • Medications to reduce abnormal acid exposure
  • Dysphagia recommendations
Structural Abnormalities
2. Webs

▶ Df:
  ▶ Thin membrane located in middle or upper esophagus

▶ SYMPTOMS:
  ▶ Asymptomatic until luminal diameter > 13 mm
  ▶ Intermittent dysphagia “steakhouse syndrome”

▶ DIAGNOSIS:
  ▶ MBS/ENDO - thin, mucosal membranes occluding esophageal lumen from anterior wall (usually missed on BA SW), generally found w/in 2 cm of hypopharynx and cervical esophagus
Structural Abnormalities
Webs, cont…

THERAPY

- Dilatation (to stretch or disrupt)

- Rare in pedi population
- “complete web” may present in neonates
- “incomplete web” presents with solid food bolus
Structural Abnormalities
3. Cricopharyngeal Bars

• AKA “prominent Crico-pharyngeus”, “crico-pharyngeal achalasia”

• Definition: structural sphincter abnormality

• SYMPTOMS:
  • Typically asymptomatic, food might get stuck superiorly

• DIAGNOSIS:
  • MBS - persistent or transient posterior indentation in cp muscle into esophagus

• THERAPY:
  • Dilatation
Structural Abnormalities
4. Rings

• Df: narrowing of the lower part of the esophagus, caused by a ring of mucosal tissue (that lines the esophagus) or muscular tissue

• SYMPTOMS:
  • Same as webs (narrows diameter)

• DIAGNOSIS:
  • MBS - indentation from anterior and posterior walls (distal)
  • ENDO - same

• THERAPY:
  • Same as webs
  • *Schatzki’s ring located in GE junction
Structural Abnormalities
5. Zenker’s Diverticulum

- **Df:** esophageal pouch that develops in upper esophagus
- **SYMPTOMS:**
  - Intermittent Dysphagia, noisy swallowing; foul breath; regurgitation
- **DIAGNOSIS:**
  - MBS - pouch-like appearance; protrudes through midline of posterior hypopharyngeal wall due to incomplete relaxation of UES
- **THERAPY:**
  - Diverticulectomy (3-6% recurrence post surgery); endoscopic stapling
  - Dysphagia recs
Structural Abnormalities
Zenker’s, continued...

- Congenital true diverticulum rare
- Present in late infancy and early childhood with s/s recurrent respiratory infection and progressive Dysphagia
- PEDI symptoms: increased saliva, regurgitation, cough with feeds
- Same Dx and Treatment
- 2% with c/o Dysphagia have Zenker’s (adult)
Structural Abnormalities
6. Pharyngoceles

• Variation of Zenker’s.
• Lateral bulging of distended pharynx due to anatomic weakness of thyrohyoid membrane
• Can see on a-p view
Structural Abnormalities

7. Hiatal Hernia

- Def: portions of stomach protrude through hole in diaphragm where esophagus and stomach join. Dislocates LES
- Portion of diaphragm enhances LES pressure, therefore ↓ LES pressure with HH
- 40% asymptomatic, +/- chest pain
- ↑ risk of GI bleed
Structural Abnormalities
Hiatal Hernia, continued…

• Causes: ↑ abdominal pressure, weakening surrounding structures 2/2 aging (> 50 yrs old)
• May be congenital abnormality or related to trauma
Structural Abnormalities
Hiatal Hernia, continued...

• **SYMPTOMS:**
  • “something stuck in my throat”, globus sensation

• **DIAGNOSIS:**
  • MBS - upward protrusion of section of stomach through esophageal hiatus

• **THERAPY:**
  • Medications, Dysphagia recommendations, surgery
Structural Abnormalities
8. Esophageal Atresia/ TEF

- Def: proximal esophagus ends blindly at T2-4
  - Incidence: 1:3,000-4,000 births
  - One of the most common congenital abnormalities
  - > in twins
  - Etiology unknown (genetic and environmental factor). Has been seen with chromosome defects
  - ↑ polyhydramnios is first sign
  - 50% develop GERD post repairs. ↑ stricture at site of anastomosis. Most have some degree of dysmotility
Structural Abnormalities
Esophageal Atresia/TEF, cont…

- EA with distal TEF - 85%
- EA with proximal TEF - 7%
- EA with both - 4%
- EA without TEF - < 1%
- TEF without EA - < 1%

- TEF - ↓ motility from TEF down, post repair
Structural Abnormalities
Esophageal Atresia/TEF

• SYMPTOMS:
  • Regurgitation, choking, cyanotic, unable to swallow saliva, copious secretions, drools from birth
  • Pulmonary status is concern
  • ↑ abdominal distension with TEF

• DIAGNOSIS:
  • MBS/BA SW: Proximal esophagus ends blindly
  • CXR: 8 or 10 fr catheter, tube stops at 10-12 cm (17 cm normal)

• THERAPY:
  • Abx, primary repair, PEG **95% survival rate post repair
Structural Abnormalities
9. Esophageal Stenosis

• Congenital or Acquired
• Common cause is secondary to reflux esophagitis, caustic ingestion, trauma from foreign body

• Similar to stricture
Structural abnormalities
10. Esophageal cysts

Definition: simple epithelial lined cysts, “esophageal duplication” which is an embryologic duplication of a portion of the muscle and submucosa of the esophagus without epithelial duplication

- Assoc with Spina Bifida, intraspinal mass
- Benign

Symptoms:
- stridor, pneumonia, CP, cough, vomiting, gagging, dysphagia

Diagnosis:
- CT/MBS: mediastinal mass

Therapy:
- surgery
11. Esophageal Cancer

- 8: 100,000 incidence (SCC)
- 4:100,000 incidence (AC)
- Males > 50
- 5-10% with 5 year survival rate (stage 1) 2001; now 17%
- 4% of cancer deaths in USA (2001); now 2.6%
- ↑ risk of SSC - tobacco, ETOH, ingestion of caustic substance, nutritional deficiencies, chronic esophagitis
- Barrett’s esophagus most important predisposing factor for adenocarcinoma of Esophagus. Also ↑ risk with obesity, tobacco, heartburn (GER)
Structural Abnormalities
Esophageal Cancer, cont...

- SYMPTOMS:
  - Dysphagia
  - Vomiting blood
  - Heartburn
  - Drooling
  - Breath odor
  - Regurgitation of food
  - CP unrelated to eating
  - Weight loss
Structural Abnormalities
Esophageal Cancer, cont...

• **DIAGNOSIS:**
  - MBS- mass, choppy lining
  - ENDO - with biopsy
  - CT chest - mass

• **THERAPY:**
  - Resection
  - Dilatation, stent placement
  - Radiation/chemotherapy
12. Barrett’s Esophagus

- Normal white esophageal lining replaced with red lining (called Barrett’s Esophagus)
- Definition: metaplastic changes in esophageal mucosa that result from GERD. Diagnosis is suspected with long term history of reflux “precursor lesion”
- Pre-malignant lesion
- 1:400 incidence; > white males; condition remains undiagnosed in most
- 400-100,000 people with diagnosis = adenocarcinoma
- 2% with GERD = Barrett’s
Structural Abnormalities
Barrett’s esophagus, cont…

- Treatment includes meds to ↓ reflux; esophagectomy
- 5-10% with Barrett’s can progress to Cancer
- 30-125x ↑ risk for adenocarcinoma of esophagus
- Premalignant lining can be seen with ENDO
- Barium swallow is generally insensitive, though may see stricture and large hiatal hernia, which would increase likelihood of Barrett’s
Structural Abnormalities

13. DIED (drug induced esophageal dysphagia)

- Secondary to meds remaining in esophagus too long
- 1 oz water/pill
- Can lead to stricture formation/bleeding/perforation
- Meds include: anti-inflammatory (aspirin), anti-bx (tetracycline), diuretics, anti-arrhythmias (quinidine), KCl slow release
Structural Abnormalities
DIED, continued…

• THERAPY:
  • Topical/oral analgesics
  • No repeat offenders
  • Antacids
  • Dilatation if stricture formation

• PREVENTION:
  • MD, Pharmacist education
  • Patient education
  • Upright/water
  • Modify size/shape of pill
VIII. Normal Impressions on the Esophagus

• Aortic arch
• Left Mainstem Bronchus
• Heart (at inferior extent)

• Esophagus is narrowest at cricoid
Intrinsic Compressions

- Cervical web
- Cricopharyngeal Bar
- Neoplasm
- Esophagitis
- Stricture
- Schatzki’s Ring
- Diverticulum
Extrinsic Compression

- Tortuous Aorta
- Osteophytes
- Enlarged Thyroid - lateral to esophagus
- Masses
- Vascular Compression - ie carotids
- Lymph Nodes
IX. Other Diagnoses that cause Esophageal Dysphagia

• Foreign Bodies
  • \( \sim \) for rings/strictures
  • Coin ~ 35% children are asymptomatic, coins are visible on CXR
  • Button battery - ↑ perforation risk
  • Sharp objects - > 5cm in length, > 2 cm wide: may not pass through stomach
  • Food ~ 34%; toys ~ 9%; bones ~5%
  • Male > female 1.6:1
  • 90% pass through GI tract without incident
Other Esophageal Diagnoses: Foreign Body, continued...

- Child presentation: ingestion followed by coughing, choking, drooling, poor feeding, dysphagia, vomiting, acute GI bleed
- Complications: erosion into major blood vessels, Asp Pneumonia, paraesophageal abscess, TEF, stricture, airway obstruction
- Dx: CSR/CT; BA SW with ENDO
- Ts: removal via endoscopy
Other Esophageal Diagnoses:
Scleroderma

- Df: smooth muscle (dysfunction) in lower 1/3 is replaced by collagen, resulting in loss of normal peristalsis, decreased LES pressure. Therefore ↑ reflux
- AKA “progressive systemic sclerosis”
- Predisposition to Barrett’s esophagus, strictures and adenocarcinoma
- 50-80% of patient’s with Scleroderma effects esophagus (atrophied distal esophagus)
Other Esophageal Diagnoses: Scleroderma, continued...

**DIAGNOSIS:**
- MBS- dilatation of lower esophagus with poor sphincter tone
- MANO - ↓ pressure at LES, non-progressive contractions in distal ¾ (smooth), normal contractions in proximal ¼ (striated), normal UES pressure
- Frequently have Sjogren’s syndrome and associated reduction in saliva secretions, therefore further esophageal impairment

**THERAPY:**
- Symptomatic, as for reflux. Therapy is directed at GER and esophagitis
Other Esophageal Diagnoses: Infections

- Yeast infections (candidiasis)
  - Pt c/o odynophagia
  - Pts with compromised immunity (RT/Chemo/AIDS), esophageal stasis (Achalasia, Scleroderma)
  - May see white patches on tongue
  - ENDO - sensitive and specific
  - MBS - may show raised placques or motor abnormality

- TREATMENT:
  - Swish and swallow (nystatin)
Other Esophageal Diagnoses: Infections, cont…

• Herpes/CMV may infect esophagus and cause severe odynophagia in immune-suppressed patients
Other Esophageal Disorders causing Dysphagia

- Chemical injuries
  - Batteries, drain cleaners, laundry/dish detergent, disinfectants, ammonia, bleach
  - 20-30% risk of serious esophageal injury, almost all respond to repeated dilatations, rarely need esophageal substitution
  - More concentrated liquids (Drano): 100% risk of injury, ↑ risk of strictures
- DIAGNOSIS:
  - ENDO - most likely sites of injury are at natural narrowing
  - BA SW - ? Perforation (severe changes)
- TREATMENT:
  - Milk/water; dilatations; surgery
Other Esophageal Disorders causing Dysphagia, cont...

- **Osteophytes**
  - Occur in 6-30% of elderly. < 1% report dysphagia (C3-6)

- **Vascular Rings**
  - Df: aortic arch of pulmonary artery malformations that exhibit abnormal relation with esophagus and trachea, causing compression, Dysphagia, and/or respiratory symptoms
    - Will see tracheal compression - complete vascular ring, partial vascular ring, compression by carotids
    - Surgery when symptoms are severe
Other Esophageal Disorders causing Dysphagia, cont...

- Dysphagia Lusoria
  - Aberrant right Subclavian Artery, arising from L side of aortic arch.
  - Diagnosed in early childhood or may develop later as a result of arteriosclerotic changes in the aberrant vessel.
  - < 1% incidence
  - See posterior compression (T3) on BA SW
  - See zone of ↑ pressure with arterial pulsations at level of vascular compression
Other Esophageal Disorders causing Dysphagia, cont...

- Post CEA
  - Local nerve disruption vs cerebral dysfunction
- Post Anterior C-spine Fusion
  - Short term dysphagia: edema, hematoma, infection
  - Long term dysphagia: disruption of pharyngeal/esophageal nerve plexus, therefore focal dysmotility and sensory disturbance
Congenital Abnormalities

- Esophageal Atresia/TEF - most common anomaly
- Stenosis and Web - rare. From congenital abnormality or acquired lesion related to esophageal mucosal injury. Most common cause of stenosis is reflux esophagitis, then injury 2/2 caustic chemical ingestion and trauma from foreign bodies
- Stricture - occurs post surgical repair, with decreased motility
- Duplications - resemble a cyst and compress esophagus but rarely communicate with lumen
Questions?