

# Esophageal Disease

## Objectives:

- Basic function of esophagus
- Definition of dysphagia
- Mechanism of dysphagia
- Types of dysphagia
- Common causes
- Algorithm to approach dysphagia

**Doctor:** prof. Saleh Alamri

**Team Members:** Yousef Aljebrin ,Khalid Aleedan, faisal Alfawaz, Abdullah Jammah

**Team Leader:** Nawaf Alkhudhayri

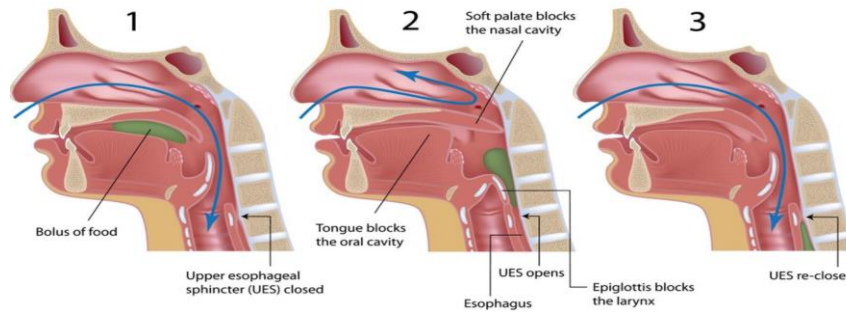
**Revised By:** Basil Almeflh

**Resources:** 436 slides + 435 team + Davidson + kumar + Recall questions step up to medicine.

- [Editing file](#)
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## Know the definition of dysphagia

- First, Swallowing occurs through three phases:  
1/Oral phase 2/Pharyngeal phase 3/Esophageal phase



- The esophagus is a fibromuscular tube (upper third is composed of skeletal muscles, and the rest is composed of smooth muscles)
- It has two sphincters ( UES: upper esophageal sphincter , LES: lower esophageal sphincter **and it's augmented by the crus of diaphragm** )
- Esophagus has two main functions: 1- Transport of food by peristalsis 2- Prevention of gastric regurgitation by LES/UES
- It is supplied by the vagus nerve & sympathetic trunk
- **Dysphagia** is sensation of obstruction of food passage or Difficulty in swallowing, **has mechanical and neuromuscular causes.**
- **Odynophagia** is painful swallowing.
- Both dysphagia and odynophagia will result in weight loss, eventually.

## Recognize the causes and types of dysphagia.

Dysphagia can be either **oropharyngeal** or **esophageal**:

| Oropharyngeal dysphagia  | Esophageal dysphagia  |   |
|--|---|---|
| <ul style="list-style-type: none"> <li>- Also called: transfer dysphagia</li> <li>- Arises from abnormalities of muscles, nerves or structures of the</li> <li>- <b>The patient can't initiate the swallowing so he tries to swallow again and again until which will make him choke and cough resulting in nasal regurgitation</b></li> </ul> <p>1-Pharynx<br/>2-Upper esophagus<br/>3-Upper esophageal sphincter.<br/>4-Oral cavity</p> <ul style="list-style-type: none"> <li>- striated muscle disease seen in cases of:<br/>CVA (cerebrovascular accident), Motor neuron disease, polymyositis or myasthenia gravis.</li> </ul> | <ul style="list-style-type: none"> <li>- Arises from abnormalities in:<br/>1-The esophageal body<br/>2-Lower esophageal sphincter<br/>3-Cardia</li> <li><b>In esophageal dysphagia they manage to swallow but it stays in the esophagus</b></li> </ul>                                  |   |
|  | Classified into mechanical and motor:   |   |
|  | <p><b>Mechanical dysphagia</b> may be due to:</p> <p><b>1-Large food bolus</b><br/><b>2-Intrinsic narrowing:</b><br/>A- Esophagitis B- Webs/rings<br/>C- Tumor D- Strictures<br/><b>3-Extrinsic compression:</b><br/>a- Enlarged thyroid b- Diverticulum c- Left atrial enlargement</p> | <p><b>Motor dysphagia:</b></p> <ul style="list-style-type: none"> <li>-Smooth muscle disorders:<br/><b>1- Scleroderma</b> (replacement of esophageal muscles by fibrous tissue)<br/><b>2- Achalasia</b> loss of intramural neurons<br/><b>3- Esophageal spasm</b> inappropriate contractions</li> </ul> |



- Clinically, dysphagia is considered an alarming symptom and the cause should be identified.
- If no cause can be identified, then it is considered functional dysphagia.

### ★ History of dysphagia Important :

1. Do you have problems initiating a swallow or do you feel food getting stuck a few seconds after Swallowing? (If there is a problem initiating a swallow it indicates Oropharyngeal dysphagia .If the food gets stuck a few seconds after swallowing it would indicate Esophageal dysphagia)
2. Do you cough or is food coming back through your nose after swallowing? (If yes, it indicates Oropharyngeal dysphagia)
3. Do you have problem swallowing solids, liquids, or both? (Problems in swallowing solids indicates mechanical dysphagia. Problems in swallowing both solids and liquids indicates motor dysphagia)
4. How long have you had problems swallowing and have your symptoms progressed, remained stable, or are they intermittent? (“Progressed” could indicate mechanical dysphagia due to a stricture or tumour. “Intermittent and sudden onset swallowing problems in healthy young patients” could indicate an Esophageal ring)
5. Could you point to where you feel food is getting stuck? (This is inaccurate and we cannot rely on it)
6. Do you have other symptoms such as loss of appetite, weight loss, nausea, vomiting, regurgitation of food particles, heartburn, vomiting fresh or old blood, pain during swallowing, or chest pain? (Associated symptoms are important to find out the cause. For example, dysphagia associated with heartburn could point towards GERD. While dysphagia associated with weight loss and anemia points towards cancer)
7. Do you have medical problems such as diabetes mellitus, scleroderma(Muscles of the esophagus are replaced with fibrous tissue), Sjorgen syndrome(Cannot produce saliva), overlap syndrome, AIDS, neuromuscular disorders (stroke, Parkinson’s, myasthenia gravis, muscular dystrophy, multiple sclerosis), cancer, Chagas’ disease or others?
8. Have you had surgery on your larynx, esophagus, stomach, or spine?
9. Have you received radiation therapy in the past?
10. What medications are you using now (ask specifically about potassium chloride, alendronate, ferrous sulfate, quinidine, ascorbic acid, tetracycline, aspirin and NSAIDs)? (Pill esophagitis can cause dysphagia.)

Make sure to ask the following 4 cardinal questions in history of dysphagia:

- Oropharyngeal or esophageal ?
- Solid or solid and liquid ?
- Intermittent or progressive?
- Associated symptoms?
- In Some patients no cause is identified (functional dysphagia)

### ★ Physical Examination (Usually negative):

Look for signs of:

1. Bulbar palsy (Patient cannot move the tongue or fibrillation of the tongue and loss of tone is present)
2. Dysarthria
3. Ptosis (Associated with Myasthenia Gravis)
4. Cerebrovascular accident
5. Goiter
6. Changes in skin (Might indicate Scleroderma or connective tissue disease)



## Common diseases associated with dysphagia

### 1-Achalasia:

|   |   |
|---|---|
| <b>Characteristics</b>                  | <p>A motor disorder of esophageal smooth muscle</p> <p>It is characterized by high LES pressure, that does not relax properly and Absent of distal peristalsis. which fails to relax during swallowing, and failure of peristalsis which leads to progressive dilatation.</p> <p><b>Pathophysiology:</b> Loss of intramural neurons of esophageal body &amp; LES.</p> <ul style="list-style-type: none"><li>- There is idiopathic loss of intramural neurons of LES and esophageal body</li><li>- Most of cases are of unknown etiology.</li><li>- A very small number can be from Chagas disease, gastric carcinoma, or diseases that can infiltrate into the area, such as lymphoma.</li><li>- Usually occurs in young females</li></ul>  |
| <b>Clinical Presentation</b>            | <ul style="list-style-type: none"><li>- Presents with progressive dysphagia to both solids and liquids simultaneously with or without weight loss.</li><li>-</li><li>- Heartburn is absent, but some patients experience severe chest pain due to esophageal spasm</li><li>- Regurgitation and pulmonary aspiration develops.</li><li>- Achalasia predisposes to squamous carcinoma of the esophagus.</li></ul>   |
| <b>Diagnosis</b>                        | <p>A- Esophagogastroduodenoscopy (EGD) is done for alarm symptoms (to rule out cancer):</p> <ol style="list-style-type: none"><li>1. Onset after age 60</li><li>2. Anemia</li><li>3. Heme-positive stools,</li><li>4. &gt;6-month duration of symptoms,</li><li>5. Weight loss.</li></ol> <p>B- CXR shows:</p> <ul style="list-style-type: none"><li>- Absent gastric bubble</li><li>- Wide mediastinum</li><li>- Fluid level</li><li>- Barium esophagography is very accurate and shows dilation of the esophagus, which narrows into a “beak like” at terminal part.</li></ul> <p>C- The most accurate test overall (gold standard) is <b>esophageal manometry</b>. Manometry shows increased lower esophageal (LES) resting pressure, with no or partial relaxation, low amplitude contraction, no propagating (simultaneous).</p>             |
| <b>Management</b><br>(There is no cure) | <ul style="list-style-type: none"><li>- Drugs: Antimuscarinic agents / Nitroglycerin (Relaxes the esophageal muscles) / Calcium channel blockers. (In patients who cannot tolerate surgery)</li><li>- Endoscopic dilatation (pneumatic dilation): Dilatation of the esophageal sphincter using a fluoroscopically positioned balloon improves symptoms in 80% of patients (treatment of choice).</li><li>- Surgical myotomy: Performed either laparoscopically or as an open operation, this is extremely effective.</li><li>- Both dilatation and myotomy may be complicated by GERD, and for this reason myotomy is often augmented by an anti-reflux procedure and a PPI is given.</li><li>- Botulinum toxin injections into the LES are used in those patients not willing to undergo pneumatic dilation, or in whom it has failed.</li></ul> |

## 2-Gastro-esophageal reflux disease:

|                        |   |
|------------------------|---|
| <b>Characteristics</b> | <ol style="list-style-type: none"> <li>1. Reflux esophagitis: Damaged esophageal mucosa by reflux of gastric content.</li> <li>2. Pathophysiology, Antireflux mechanism includes:             <ol style="list-style-type: none"> <li>A) LES</li> <li>B) Esophageal peristalsis</li> <li>C) Resistant of esophageal mucosa.</li> <li>D) Saliva</li> <li>E) Gastric peristalsis</li> </ol> </li> </ol> <ul style="list-style-type: none"> <li>- Gastro-esophageal reflux causing in heartburn affects approximately 30% of the general population</li> <li>- Occasional episodes of gastro-esophageal reflux are common in healthy individuals.</li> <li>- Reflux is normally followed by: esophageal peristaltic waves &gt; clear the gullet, alkaline saliva<sup>1</sup> neutralizes residual acid &gt; symptoms do not occur.</li> <li>- Gastro-esophageal reflux disease develops when the esophageal mucosa is exposed to gastroduodenal contents for prolonged periods of time, resulting in symptoms and, in a proportion of cases, esophagitis<sup>2</sup></li> </ul> <p>Damage depends on:</p> <ul style="list-style-type: none"> <li>- Refluxed Material (The materials acidity)</li> <li>- Duration of reflux/Material (The time the refluxed material stays in the esophagus + how many refluxes you experienced )</li> </ul> |
|------------------------|---|

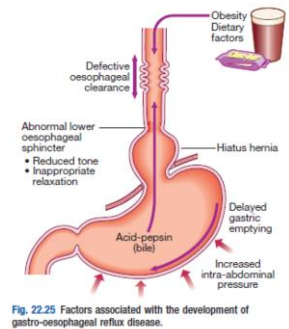


Fig. 22.25 Factors associated with the development of gastro-oesophageal reflux disease.

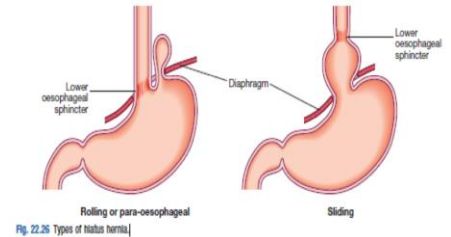
### ★ Factors involved in GERD:

|                                |  |
|--------------------------------|--|
| <b>1-Abnormalities of LES:</b> | <p>Loss of LES pressure:</p> <ol style="list-style-type: none"> <li>1. TLESR (Transient lower esophageal sphincter relaxation)</li> <li>2. Sustained</li> <li>3. Increased Intra-gastric pressure</li> <li>4. Scleroderma</li> <li>5. Surgical resection</li> </ol> <p>The lower esophageal sphincter is tonically contracted under normal circumstances and relaxes only during swallowing</p> <ul style="list-style-type: none"> <li>- Dietary fat, chocolate, alcohol and coffee &gt; relax LES and provoke symptoms</li> <li>- LES normally has circular muscles which is augmented by diaphragm to prevent the reflux .. this is lost most of the time in GERD</li> </ul> |
|--------------------------------|--|

<sup>1</sup> Saliva is alkaline in nature it neutralizes the acidic content ( in case of reduced saliva the acids can't be neutralized)

<sup>2</sup>Reflux esophagitis: Damaged esophageal mucosa by reflux of gastric content

|  |  |
|--|--|
| <p><b>2-Hiatus hernia:</b></p>                               | <ul style="list-style-type: none"> <li>- Hiatus hernia(GERD is particularly associated with sliding hiatal hernia) causes reflux because of:             <ul style="list-style-type: none"> <li>a-The loss of pressure gradient between the abdominal and thoracic cavities.</li> <li>When LES herniates into thoracic cavity the pressure in negative &gt; dilation of esophagus</li> <li>b-the oblique angle between the cardia and esophagus disappears.:</li> </ul> </li> <li>the relationship between the presence of a hernia and symptoms is poor:             <ul style="list-style-type: none"> <li>a-Hiatus hernia is common in individuals who have no symptoms</li> <li>b-some symptomatic patients have only a very small or no hernia                 <ul style="list-style-type: none"> <li>- Most of the who have Hiatus hernia develop                     <ol style="list-style-type: none"> <li>1. Esophagitis</li> <li>2. Barrett’s esophagus</li> <li>3. Peptic strictures</li> </ol> </li> </ul> </li> </ul> </li> </ul> |
| <p><b>3-Delayed esophageal clearance (aperistalsis):</b></p> | <ul style="list-style-type: none"> <li>- Defective esophageal peristaltic activity is commonly found in patients who have esophagitis.</li> <li>- It is a primary abnormality, since it persists after esophagitis has been healed by acid-suppressing drug therapy.</li> <li>- Poor esophageal clearance leads to increased acid exposure time.</li> </ul>  |
| <p><b>4-Delayed gastric emptying:</b></p>                    | <ul style="list-style-type: none"> <li>- Mechanical</li> <li>- obstruction</li> <li>- Motor</li> </ul>   |
| <p><b>5-Reduced saliva</b></p>                               | <p>Sjogren’s syndrome</p>  |
| <p><b>6-Increased intra-abdominal pressure:</b></p>          | <ul style="list-style-type: none"> <li>- Pregnancy and obesity are established predisposing causes.</li> <li>- Weight loss may improve symptoms</li> </ul>   |



★ **Clinical Manifestation of GERD:**

- 1- heartburn and regurgitation (Most common symptoms) , often provoked by bending, straining or lying down.
- 2- Dysphagia
- 3- Atypical chest pain which may be severe and can mimic angina and may be due to reflux-induced esophageal spasm.
- 4- ‘Water brash’, which is salivation due to reflex salivary glands stimulation as acid enters the gullet, is often present.
- 5- Patient is often overweight.
- 6- Waking at night by choking as refluxed fluid irritates the larynx.
- 7- Odynophagia (pain during swallowing)
- 8- Hoarseness (‘acid laryngitis’)
- 9- Recurrent chest infections
- 10- Chronic cough
- 11- Asthma





★ **Complications: (the doctor didn't go into details)**

|  |   |
|--|---|
| <p><b>Benign esophageal stricture:</b></p> | <p>Fibrous strictures can develop because of longstanding esophagitis, especially in:</p> <ul style="list-style-type: none"> <li>● Elderly</li> <li>● Those who have poor peristaltic activity</li> </ul> <p>Present with:</p> <p>A- dysphagia (typical presentation) that is worse for solids than for liquids</p> <p>B- Bolus obstruction following ingestion of meat causes absolute dysphagia</p> <p>C- heartburn is common but not invariable; many elderly patients presenting with strictures have no preceding heartburn.</p> <p>Diagnosis:</p> <p>is by <b>endoscopy</b>, when biopsies of the stricture can be taken to exclude malignancy. Endoscopic balloon dilatation is helpful.</p> <p>Treatment:</p> <p>long-term therapy with a PPI drug at full dose should be started to reduce the risk of recurrent esophagitis and stricture formation</p> <p>The patient should be advised to chew food thoroughly, and it is important to ensure adequate dentition</p>  |
| <p><b>Bleeding</b></p>                     | <p>-</p>  |
| <p><b>Barrett's esophagus:</b></p>         | <p>Barrett's esophagus is a pre-malignant condition, in which the normal squamous lining of the lower esophagus is replaced by columnar mucosa (<b>columnar with goblet cells lined esophagus</b>) that may contain areas of intestinal metaplasia.</p> <p>Barrett's esophagus is an adaptive response to chronic gastro-esophageal reflux and is found in 10% of patients undergoing gastroscopy for reflux symptoms.</p> <p>it is often asymptomatic until discovered when the patient presents with esophageal cancer</p> <ul style="list-style-type: none"> <li>- risk of esophageal cancer is 40–120-fold increased</li> <li>- The prevalence is increasing, and it is more common in:</li> </ul> <p>A- men (especially whites)</p> <p>B- obese and those over 50 years of age</p> <p>C- Smoking</p> <p>Diagnosis requires multiple systematic biopsies to detecting intestinal metaplasia and/or dysplasia.</p> <p>Management:</p> <p>treatment is only indicated for symptoms of reflux or complications, such as strictures and follow up</p> <p>1-Endoscopic therapies, such as:</p> <ul style="list-style-type: none"> <li>● radiofrequency ablation or photodynamic therapy used only for those with dysplasia or intraconal cancer like patients with CLO without dysplasia should undergo endoscopy at 3–5-yearly intervals</li> <li>● low-grade dysplasia at 6–12-monthly intervals</li> </ul> <p>2- esophagectomy or endoscopic therapy with a combination of endoscopic resection (ER)</p> <ul style="list-style-type: none"> <li>● For those with high-grade dysplasia (HGD) or intraconal carcinoma.</li> </ul> |
| <p><b>Anemia:</b></p>                      | <ul style="list-style-type: none"> <li>- <b>Iron deficiency anemia can occur because of occult blood loss from long-standing esophagitis.</b></li> <li>- Most patients have a large hiatus hernia and bleeding can stem from subtle erosions in the neck of the sac ('Cameron lesions').</li> <li>- hiatus hernia is very common and other causes of blood loss, particularly colorectal cancer, must be considered in anemic patients, even when endoscopy reveals esophagitis.</li> </ul>   |



**Esophagitis:**

range of endoscopic findings:

1. ranges from mild to severe redness
2. bleeding
3. Ulceration with stricture formation
4. although appearances may be completely normal; There is a poor correlation between symptoms and histological and endoscopic findings.

Patients diagnosed with erosive esophagitis are recommended to start proton pump inhibitors.

**★ Treatment:**

- Antireflux measure.
- Acid suppressing agent.ggg
- Surgery

**★ Diagnosis:**

- Endoscopy (Gold standard)
- barium swallow
- 24 hour pH monitoring and motility

**★ Management:**

| 1-Lifestyle advice, including:   | 2-Medication:  | 3- laparoscopic anti-reflux surgery |
|--|--|-------------------------------------|
| <p><b>A-</b> weight loss</p> <p><b>B-</b> avoidance of dietary items that the patient finds worsen symptoms</p> <p><b>C-</b> elevation of the bed head in those who experience nocturnal symptoms</p> <p><b>D-</b> not sleeping after a meal for at least 3 hours</p> <p><b>E-</b> smoking cessation</p> | <p><b>A-</b> PPIs, which are usually effective in resolving symptoms and healing esophagitis</p> <p><b>B-</b> domperidone, when dysmotility features are prominent, can be helpful</p> <p><b>C-</b> antacids and alginates can also provide symptomatic benefit</p> <p><b>D-</b> H2-receptor antagonist drugs also help resolving symptoms without healing esophagitis</p> | <p>- Rarely required</p>            |



### 3-Esophageal Cancer

|                          |  |
|--------------------------|--|
| <b>Characteristics</b>   | <ul style="list-style-type: none"> <li>- Disease more in Males &gt; 50 Years</li> <li>- Causation factors: 1) Excess alcohol 2) Cigarette smoking 3) Fungal toxin.</li> <li>- Mucosal damage: 1) Hot tea 2) Radiation induced stricture 3) Barrett's esophagus 4) Esophageal web.</li> <li>- 15% affect the upper 1/3 , 45% affect the middle 1/3 , 40% affect the lower 1/3</li> <li>- There are two pathologic types: squamous cell carcinoma (&gt;75% of cases) and adenocarcinoma</li> </ul>   |
| <b>A. SCC</b>            | <ul style="list-style-type: none"> <li>- Incidence is higher in African-American men than in other groups.</li> <li>- Most common locations are the upper- and midthoracic esophagus. About one-third may be in distal 10 cm of esophagus.</li> <li>- Risk factors are alcohol and tobacco use, diet (nitrosamines, betel nuts, chronic ingestion of hot foods and beverages such as tea), human papillomavirus, achalasia, Plummer–Vinson syndrome<sup>3</sup> "esophageal web", caustic ingestion, and nasopharyngeal carcinoma.</li> </ul>  |
| <b>B. Adenocarcinoma</b> | <ul style="list-style-type: none"> <li>- More common in Caucasians and men (5:1 over women).</li> <li>- Most common in distal third of the esophagus/gastroesophageal junction (in 80% of cases).</li> <li>- Risk factors: GERD and Barrett's esophagus are the main risk factors.</li> <li>- The prognosis is poor: Five-year survival rate is about 30% to 40% if locoregional disease, but only 5% if distant metastasis present at diagnosis.</li> </ul>   |
| <b>Clinical features</b> | <ol style="list-style-type: none"> <li>1. <b>Dysphagia</b>—most common symptom (initially solids only, then progression to liquids)</li> <li>2. <b>Weight loss</b>—second most common symptom</li> <li>3. Odynophagia (pain with swallowing)—a late finding that suggests extraesophageal involvement (mediastinal invasion)</li> <li>4. Tracheoesophageal or Broncho-esophageal fistula (The tumor penetrates through the esophagus)</li> <li>5. Regurgitation</li> <li>6. Anorexia</li> <li>7. Aspiration pneumonia, respiratory symptoms due to involvement of tracheobronchial tree</li> <li>8. Chest pain</li> <li>9. Hematemesis, hoarseness of voice (recurrent laryngeal nerve involvement)</li> </ol> <p>Usually patients with esophageal cancer are elderly complaining of progressive dysphagia ( getting worse with time), more common with solid than liquid.</p> |
| <b>Diagnosis</b>         | <ol style="list-style-type: none"> <li>1. Barium swallow useful in evaluation of dysphagia. A presumptive diagnosis can be made.</li> <li>2. Upper endoscopy with biopsy and brush cytology is required for definitive diagnosis. It confirms the diagnosis in 95% of cases.</li> <li>3. After confirming the diagnosis of esophageal cancer by endoscopy with biopsy, Transesophageal Ultrasound helps determine the depth of penetration of the tumor and is the most reliable test for staging local cancer.</li> <li>4. Full metastatic workup (e.g., CT scan of chest/abdomen, CXR, bone scan).</li> </ol>  |
| <b>Treatment</b>         | <ol style="list-style-type: none"> <li>1. Palliative is the goal in most patients because the disease is usually advanced at presentation.</li> <li>2. Surgery (esophagectomy) if localized may be curative for patients with disease in stage 0, 1, or 2A. Prognosis is poor. 5 Y survival</li> </ol>   |

<sup>3</sup> A syndrome that basically consists of: Glossitis, inflammation of the lips, dysphagia, esophageal webs and iron deficiency anemia



#### 4-Infectious Esophagitis:

- Viral esophagitis ( could be caused by HSV, CMV , or Varicella Zoster )
- Bacterial
- Fungal
- Presents with Dysphagia, **Odynophagia** (The cardinal symptom) (Patients usually present with **Odynophagia**) and bleeding
- Diagnosed by barium swallow, endoscopy and biopsy

#### 5-Diverticula (outpouching of the wall of the esophagus):

- Zenker diverticulum (upper esophagus)
- Epiphrenic diverticulum (lower esophagus)
- Usually asymptomatic, or could present with regurgitation of the food consumed several days ago ( because the food accumulates in the diverticula )
- dysphagia  
(Large diverticula can cause dysphagia by compression of the esophagus)

#### 6-Diffuse Esophageal Spasm (corkscrew esophagus)

- DES is a hypermotility disorder of the esophagus
  - Seen most often in women and is often found in patients with multiple complaints.
  - The basic pathology is related to a motor abnormality of the esophageal body that is most notable in the lower two thirds of the esophagus
  - **the esophageal contractions are repetitive, simultaneous, irregular** and of high amplitude
- Symptoms and Diagnosis
- The clinical presentation of DES is typically that of chest pain and dysphagia
  - These symptoms may be related to eating or exertion and **may mimic angina.**
  - Patients will complain of a squeezing pressure in the chest that may radiate to the jaw, arms, and upper back.
  - The symptoms are often pronounced during times of heightened emotional stress
  - Regurgitation of esophageal contents and saliva is common, but acid reflux is not
  - acid reflux can aggravate the symptoms, as can cold liquids
  - irritable bowel syndrome and pyloric spasm, may accompany DES, whereas other gastrointestinal problems, such as gallstones, peptic ulcer disease, and pancreatitis, all trigger DES
  - The diagnosis of DES is made by an esophagram and manometric studies

★ **Important cases:**

**1. Young lady with progressive dysphagia to solids and liquids with weight loss.**

**Sign: bird peak sign**

**Diagnosis: achalasia**



**2. Young healthy Patient comes intermittent solid dysphagia with sudden onset from time to time (indicates esophageal ring.)**

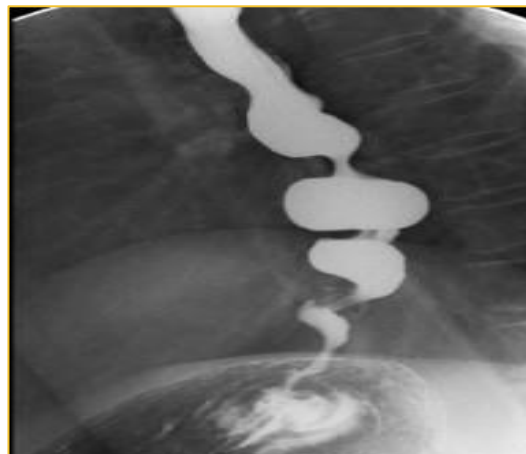
**Diagnosis: Esophageal ring**



**3. young lady has intermittent dysphagia with solid and liquid which associated with angina like pain**

**Sign: corkscrew esophagus**

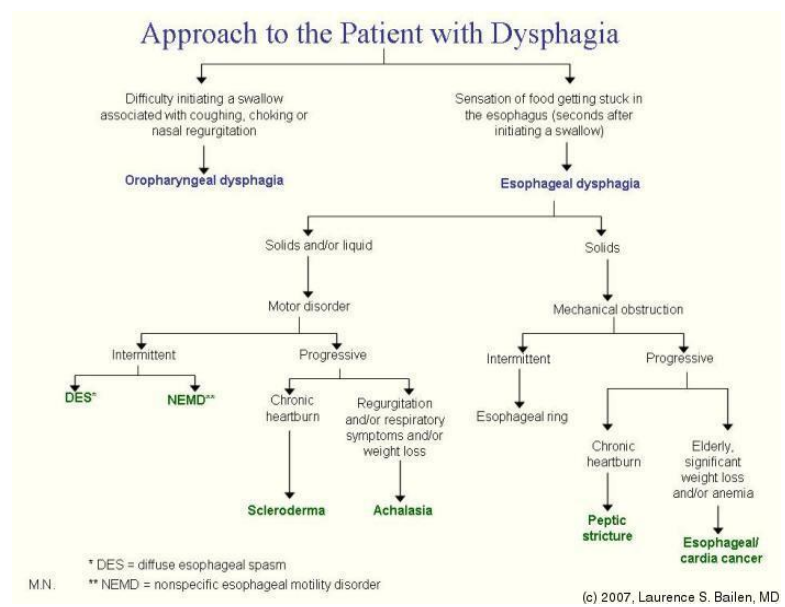
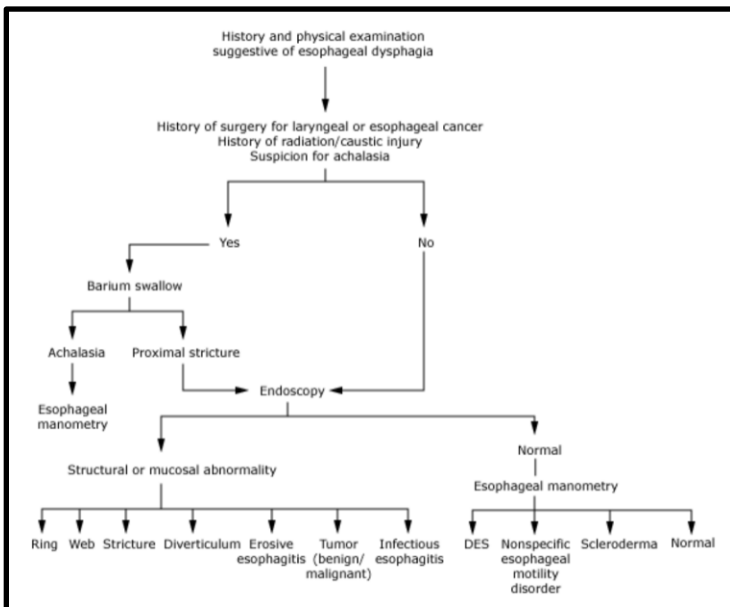
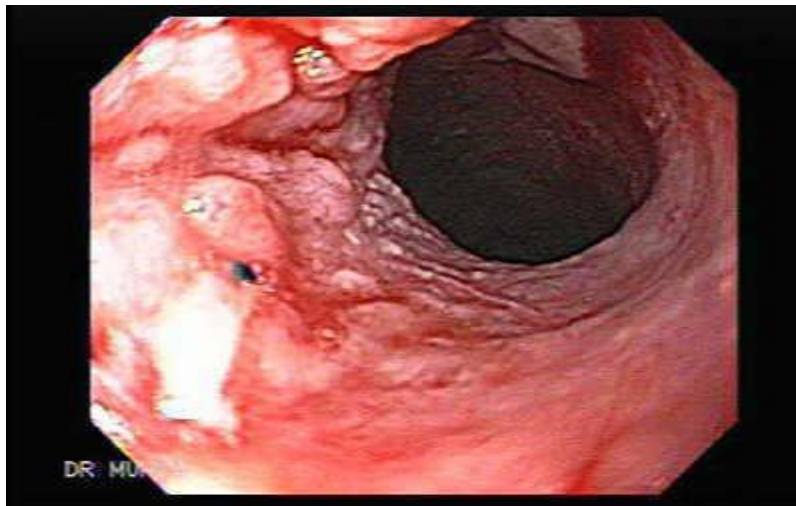
**Diagnosis: diffuse esophageal spasm**



4. Young lady with intermittent solid dysphagia  
 Diagnosis: Reflux esophagitis with stricture formation



5. Old man with progressive dysphagia to solid only with weight loss  
 Diagnosis: tumor





# SUMMARY

| The disease                                  | Presentation  | Diagnosis   | Treatment   |
|--|---|---|---|
| Dysphagia<br>1-Oropharyngeal<br>2-Esophageal | 1-Can't initiate swallowing +<br>Cough and food leaking from<br>nose<br><br>2-Can initiate swallowing<br>,but Food gets stuck in the<br>esophagus | Endoscopy   | Depends on the etiology   |
| GERD   | Regurgitation + Heartburn +<br>Chest pain   | Endoscopy + 24 hours Ph<br>monitoring                   | Lifestyle modifications<br>+ PPI + H2 blockers  |
| Achalasia                                    | Difficulty swallowing both<br>solid and liquid +<br>Halitosis   | Barium swallow +<br>Endoscopy + esophageal<br>Manometry | Medical: (Nitroglycerin<br>or CCB )<br><br>Pneumatic dilation<br><br>Surgery ( Myotomy) |

## Questions

1 - The most accurate test to confirm the diagnosis of achalasia is :

- A. Esophagogastroduodenoscopy
- B. CXR
- C. Manometry
- D. Barium swallow

2 - The gold standard test for GERD is :

- A. Barium swallow
- B. Endoscopy
- C. CXR
- D. PH Monitoring

3 - A 60 year-old alcoholic African American man presented with dysphagia to initially solids then progressed to liquids and weight loss. What type of esophageal cancer he mostly has ?

- A. Transitional cell carcinoma



- B. Adenocarcinoma
- C. Squamous cell carcinoma
- D. Teratoma

4 - A 26 year-old male presented with fever, dysphagia, odynophagia and melena .. he mostly has :

- A. GERD
- B. Infectious esophagitis
- C. Achalasia
- D. Diverticula

5 - A 64 y female presented with halitosis, dysphagia, regurgitation of old meals and sticking of food in the upper esophagus .. she mostly has :

- A. Esophageal cancer
- B. Achalasia
- C. Epiphrenic diverticulum
- D. Zenker diverticulum

6- A 25 year old patient comes to you complaining of dysphagia. The patient can initiate swallowing but feels the food gets stuck in his esophagus. The patient mentioned that the dysphagia is to both solids and liquids with an intermittent course. Which of the following is the most likely cause for his dysphagia?

- A. Achalasia
- B. Diffuse Esophageal Spasm
- C. Esophageal cancer
- D. Diverticulum

7- A 20 year old female patient complaining of progressive dysphagia that is to both solids and liquids simultaneously. The patient mentioned that she experiences regurgitation. She also has a history of chest infections and aspiration but no weight loss or anemia. Which of the following is the most likely cause of her dysphagia?

- A. Achalasia
- B. Esophageal Ring
- C. Esophageal spasm
- D. Esophageal cancer

8- A 30 year old patient complaining of intermittent dysphagia to both solids and liquids associated to chest pain which the patient described as a squeezing pain. Which of the following appearances would the esophagus most likely be on the barium swallow?

- A. Bird-beak appearance
- B. Corkscrew appearance
- C. Air-fluid level
- D. Apple-core appearance

9- What would be the initial test in the patient described above?

- A. Endoscopy
- B. CBC
- C. ECG
- D. Barium swallow

10- Which of the following would be the first to be considered in the management of a patient with GERD?

- A. Proton pump inhibitors
- B. H2 antagonists
- C. Lifestyle modifications



D. Surgery

Answers:

1. C
2. B
3. C
4. B
5. D
6. B
7. A
8. B
9. C
10. C