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Dysphagia
Approach to diagnosis

By
Dr. Doaa Farouk
Lecturer of Internal Medicine
Mansoura University

- The word **dysphagia** is derived from the Greek phagia (to eat) and dys (with difficulty), it specifically refers to a sensation of impaired passage of food from the mouth to the stomach. patients commonly complain that the food **“sticks” or “gets stuck”** as it goes down to the esophagus.

- Dysphagia must be distinguished from **odynophagia** which means painful swallowing it carries two major diagnoses, medication induced or infectious esophagitis.
- **Globus** which means a sensation of a lump in the throat not related to swallowing which involves different differential diagnosis ex. GERD, anxiety disorders, early hypopharngeal cancer and goiter.

- Dysphagia may result from an abnormality at each stage of the swallowing process.
- The normal act of swallowing may be divided into:
  - **Oropharyngral stage.**
  - **Esophageal stage.**

- **The oropharyngeal** phase involves the process of chewing and mixing solid food with saliva so that individual food particles are sufficiently reduced in size and lubricated to allow easy passage through the pharynx and esophagus.

- With the voluntary initiation of swallowing, the food bolus is propelled posteriorly **by the tongue** into the pharynx then a rapid series of carefully orchestrated involuntary events follows in which the **soft palate and larynx** close to prevent nasal regurgitation and aspiration.

- The upper esophageal sphincter opens and a wave of pharyngeal peristalsis propels the food bolus into the upper esophagus.

- This involuntary process is controlled by the **swallowing center** located in the medulla.
- Afferent input to the swallowing center is provided by cranial nerves V, X and X1 efferent motor function is provided by cranial nerves V,VII, IX,X and XII.
- Respiration is inhibited centrally during the act the swallowing

- Once the food bolus has reached the upper esophagus, **the esophageal phase of swallowing** takes place.
- A primary peristaltic wave propels the food bolus down the esophagus the **lower esophageal sphincter relaxes** in anticipation of the peristaltic wave allowing passage of food bolus into the stomach.

Classification

- **Dysphagia is usually classified as**
  - **oropharyngeal dysphagia** which produced by an abnormality in the preparation or transfer of food from mouth to upper esophagus, this may occur as a result of poor motor control of the toung, Jaw or other oral structures or maybe due to abnormalities in swallowing reflex.
  - **Esophageal dysphagia** which is caused by a mechanical or motor abnormality of esophagus that impairs movement of food bolus through the esophagus into the stomach.

Causes of oropharyngeal dysphagia

1- Neurological disorders

- Cerebo vascular accident (especially brain stem).
- Parkinson’s disease.
- Multiple sclerosis.
- Brain stem tumor.
- Bulbar poliomyelitis.
- Peripheral neuropathies.
- Huntington's disease

2- Diseases of myoneural junction:

- Myasthnia gravies.
- Eaton - Lambert syndrome.

3- Muscular disorders

- Muscular dystrophies.
- Dermatomyositis / polymosities
- Sarcoidosis.
- Metabolic myopathies. (hypo or hyperthyrodism)
- Amyloidosis.
- Steroid induced myopathy.

4- Structural abnormalities

- Inflammatory (e.g pharyngitis, abscess)
- Oropharyngeal neoplasm.
- Extrinsic compression (cervical osteophytes, thyromegaly).
- Congenital web.
- Zenker diverticulum.

5- Upper esophageal sphincter UES dysfunction

- Cricopharyngeal achalasia .
- Hypertensive UES.

6- Infectious causes

- AIDS with CNS Involvement
  - Opportunists infection
  - Mass lesion
- Syphilis
- Botulism
- Rabis
- Dephtheria
- Meningitis.

Causes of esophageal dysphagia

1- Intrinsic mechanical abnormalities

- Reflux induced stricture.
- Esophageal carcinoma.
- Esophageal web's/rings.
- Esophageal diverticula's.
- Foreign bodies.

2- Extrinsic esophageal compression

- Mediastinal tumor.
- Vascular compression.
- Cervical osteophytes.

3- Esophageal motility disorders

- Achalasia.
- Diffuse esophageal spasm.
- Hypertensive lower esophageal sphincter.
- Non specific motility disorders.
- Severe gastroesphageal reflux disease.

- Patients with **esophageal dysphagia** are able to transfer food from the mouth into the upper esophagus but experience a sensation of food **“hanging up” or “sticking”** after it is swallowed.

- Simultaneous involvement of the oropharyn and esophagus **extremely unusual** for any disease process other than **infection** because they have different musculature innervations and neural regulation.

Diagnosis of dysphagia

1- History and clinical presentation

- A carefully taken history will allow a correct diagnosis in approximately **80%** of patients presenting with dysphagia.

Symptoms suggesting an oropharyngeal causes of dysphagia include

- Nasal regurgitation.
- Coughing during swallowing.
- Or difficulty initiating swallowing.
- Speech disorders.
- Cranial never deficits ex. Ptosis
- Weakness, especially toward the end of the day.

- In patients with oropharyngeal dysphagia, the primary diagnosis is usually apparent especially in the presence of **characteristic symptoms**.
- When approaching the patient with apparent esophageal dysphagia, three important questions are particularly crucial.
  - **What kind of food (liquid or solid) produces the symptom?**
  - **Is the dysphagia intermittent or progressive?**
  - **Is there associated symptoms?**

Cont.

- On the basis of these symptoms, it is often possible to identify the cause as a mechanical or neuromuscular defect. The associated symptoms of **chest pain** and **nocturnal coughing** can be valuable additions to this diagnostic approach.

2- Physical examination

- Physical examination usually is unremarkable, **profound weight loss** may be seen in patients with advanced esophageal malignancy or achalasia but is uncommon in other being conditions.
- Inspection of the oral cavity should be performed in patient complaining of orophanygeal dysphagia paying particular attention to **mucosal ulceration, mass lesion and dentition.**
- Neurological testing of the cranial nerves involved in swallowing is important to rule out a neurological deficit contributing to dysphagia.

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- **Examination of the neck** is performed to exclude mass lesions or thyromegaly.
- **Inspection of the limbs** may show characteristic skin changes suggesting scleroderma or weakness suggesting a neuromuscular disorders.
- Patients with oropharyngeal dysphagia and hoarseness should be referred for **otolaryngology consultation** and **direct larynogoscopy**.

3- Diagnostic studies

1. Upper gastrointestinal endoscopy
2. Video esophagography
3. Barium esophagography.
4. Esophageal manometry study especially for the body and LES.
5. Endoscopic ultrasonography, “EUS”.

- Patients with **orophryngeal dysphagia** should undergo a **video fluoroscopic examination** of deglutition.
- During this examination, barium of various consistencies is ingested by the patients and the swallowing sequence is recorded fluoroscopically.

- **Anatomic and structural defects** as well as discoordination of muscular movements may be identified.
- This examination may also aid in nutritional management by determining the food consistency most easily swallowed by the patients as well as head and body positions that facilitate swallowing.

- Patients with esophageal dysphagia may undergo either **upper gastrointestinal endoscopy** or **barium swallow** as the initial diagnostic evaluation.
- Under most circumstances, a **barium swallow** is favored as the initial study because it provides information about both **structural lesions** (strictures, tumor, rings, webs or cervical osteophytes) as well as **esophageal motility disorders.**

In patients with persistent heartburn **(suggesting a peptic stricture)** or with significant weight loss **(suggesting malignancy)**, **endoscopy** is the study of first choice because it permits mucosal biopsy and dilation.

- Patients with suspected **peptic strictures** identified on barium swallow must undergo **endoscopy** in order to rule out esophageal carcinoma.
- Patients with lesions found on barium swallow which suggest **carcinoma** also must undergo **endoscopy with biopsy** for confirmation.

- **Esophageal rings or webs** identified on barium studies may benefit from **endoscopic dilation and disruption**.
- Findings suggesting **achalasia** on barium swallow (a dilated aperistaltic esophageal body and narrowed distal esophagus) warrant referral for esophageal **manometry** and **endoscopy** to exclude secondary causes.

Simultaneous nonperistaltic contractions seen on barium swallow suggest **diffuse esophageal spam** and **manometey** should be considered.

Endoscopic ultrasound has an accuracy rate of nearly **90%** for assessing depth of the esophageal tumor and infiltration and **80%** for staging lymph node involvement.

Management of dysphagia

Dysphagia is a clinical symptom the relief of such symptom depends on management of its etiology.

- Some patients with **oropharyngeal dysphagia** have readily treatable disease, emphasizing the importance of establishing a specific diagnosis these include patients with **parkinson disease hypothyroidism, myositis.**
- Patients with dysphagia as a result of cerebral vascular accidents or degenerative neurologic diseases may undergo modified barium swallow, mechanical modification can be made to assist the swallow.

Cont.

- **Cricopharyngeal myotomy** is believed to benefit patients with disorders included under the term ciropharygeal achalasia. It produces considerable change in the motor function of pharyngoesophageal segment as well as UES.

Management of esophageal stricture

- Dysphagia occurs when there is narrowing the esophageal lumen to less than **15 mm**.
- when the stricture associated with active and marked inflammation of the distal esophagus, they response well to medical therapy in form of **antacids, H_2–Receptor antagonists, prokinetics and proton pump inhibitors**.

However when there is fibrotic stricture, dilatation is required at varying interval by using **mercury Filled rubber bougies.**

- **Tight or tortuous strictures** can be treated with dilators that are passed over a guide wire that is positioned within the stricture using endoscopic guidance.

- **PPI therapy** is useful after dilatation to reduce recurrent stricturing and the need for more dilatation.

- **Difficult stricture** can be dilated surgically and this procedure can be combined with an anti-reflux operation.

- It may require **esophageal resection**, the esophagus is reconstructed with a segment of bowel.

Management of Achalasia

- The treatment of choice is **endoscopic dilatation of the LES** using a pneumatic bag (passed under x-ray control).
- It weakens the sphincter and is successful in **80%** of cases.

- Endoscopic injection of **botulinum toxin** into the LES has been used with variable success.
- Muscle relaxant, such as nifedipine **10mg** sublingually before meals, may be helpful initially.
- If this measures fail, surgical division of the muscle at the lower end of the esophagus **(Cardiomyotomy or Heller's operation)** is performed laparoscopically.

Management of Diffuse esophageal spasm

- Treatment is mainly **medical** by antispasmodics, nitrates, calcium channel blockers such as sublingual nifedipine 10mg three times daily.

- Occasionally, **balloon dilatation** or even **myotomy** is necessary, when the spasm is associated with GERD, acid suppression is given.

- **Oesophageal diverticulum** (Zenker's diverticula) is treated by **crico-pharyngeal myotomy with or without diverticulectomy**.

- **Esophageal webs** is treated by dilatation but sometime surgical myotomy maybe necessary.

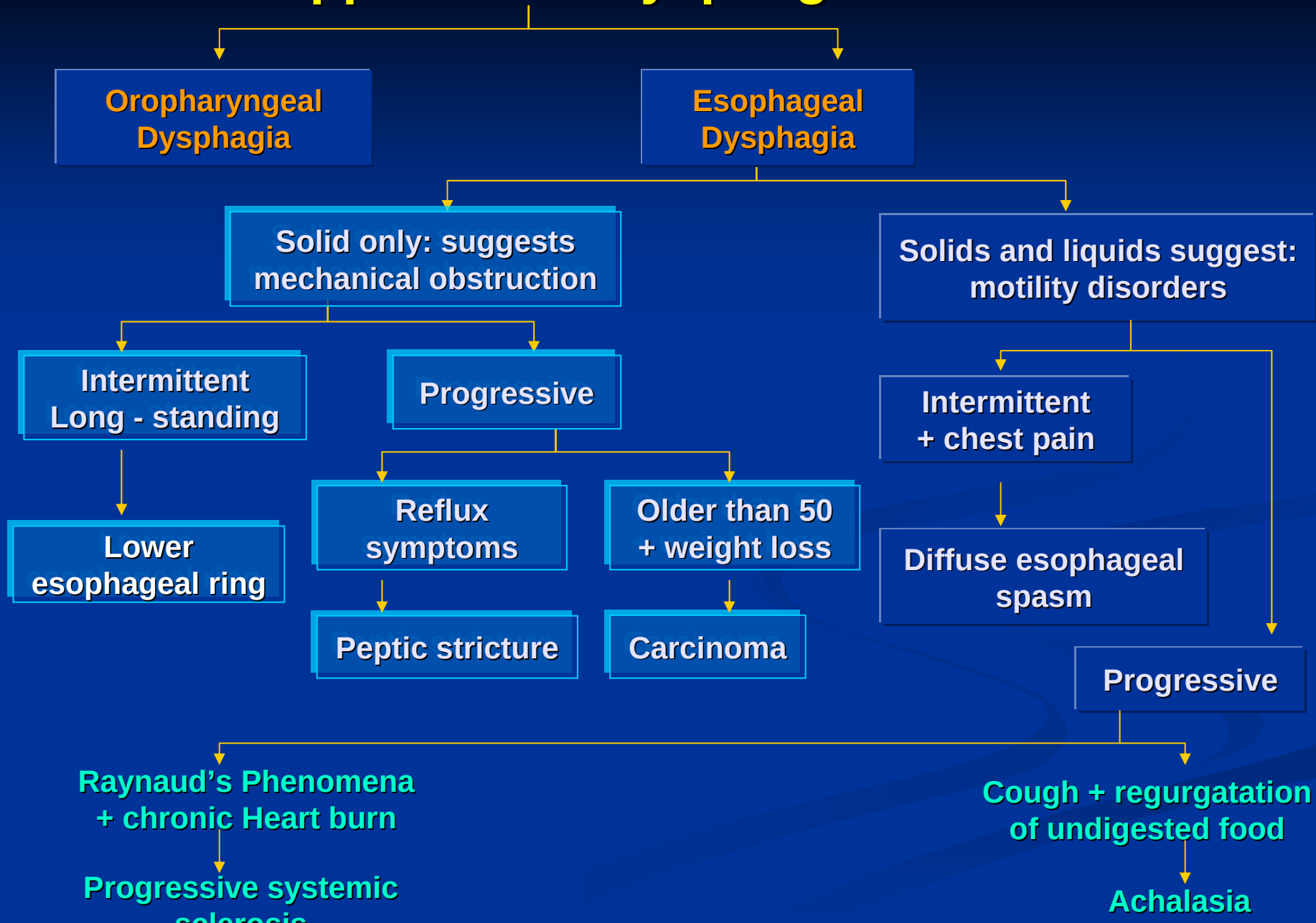
Management of esophageal tumor

- Treatment depends on the age and fitness of the patients and the stage of the disease.
- **Surgery** provide the best line of treatment and should be used when there is no contraindication.

- **Radiotherapy,** is used for squamous carcinoma of the upper and middle third of the esophagus.
- **Chemotherapy,** used before surgical resection.

- **Palliative therapy**, is often the only realistic possibility.
- **Repeated dilatation,** with insertion of an expanding metal stent to keep the esophageal lumen open is performed via endoscopy.

Approach of Dysphagia



Thank you