Chapter

63

Clinical Approach to a Patient with Dysphagia

GA PRASAD

- Dysphagia is **defined** as difficulty in transferring food from the mouth to the stomach. The process of swallowing food consists of 2 stages.
  - The *oropharyngeal stage:* This is under voluntary control and moves the food bolus from the mouth to the esophagus.
  - The *esophageal stage:* This is involuntary and refers to the movement of food through the esophagus into the stomach.
- The **history** often gives clues as to the site of abnormality in the esophagus and the underlying cause.
  - Patients with oropharyngeal problems have difficulty in transferring the bolus from the mouth to the upper esophagus. These patients present with difficulty in initiating the swallow, as well as problems with aspiration, choking, nasopharyngeal regurgitation, and dysphonia. They may also have a history of aspiration pneumonias.
  - Patients with esophageal causes of dysphagia frequently report a perception that food sticks at a point in the chest or throat. In patients with distal esophageal obstruction, the level of perception of obstruction usually corresponds to the site of the stricture. However, some patients with lower-esophageal strictures can point to the proximal esophagus as the site of obstruction. It is unusual for patients with proximal esophageal lesions to point to the distal esophagus as the site of obstruction.
  - The kind of food (solid and/or liquid) which is affected the most may help identify the underlying etiology of dysphagia. Disease processes that narrow the esophageal lumen characteristically will begin with dysphagia to solid foods and then may progress to dysphagia to liquids. In contrast, patients with esophageal dysmotility (typically achalasia) frequently complain of dysphagia to both solids and liquids as the initial symptom.
  - The time course of dysphagia may also be helpful. Non-progressive and long-standing intermittent dysphagia often is caused by a lower-esophageal mucosal ring (Schatzki's ring). In contrast, discrete esophageal strictures cause progressive dysphagia and if weight loss is prominent malignancy should be considered. A history of heartburn and regurgitation increases the likelihood of a peptic esophageal stricture. Patients with pill esophagitis often describe pain in association with dysphagia (odynophagia). In patients with smooth muscle diseases such as scleroderma, dysphagia may be secondary to gastroesophageal reflux or the esophageal dysmotility.
  - Eosinophilic esophagitis (EE) is an emerging cause of dysphagia. EE is typically seen in young adults with a long history of solid-food dysphagia or food impaction. Endoscopy may reveal a number of subtle features that include a ringed-appearing or corrugated esophagus, a crepe-paper–appearing esophagus, or distal esophageal furrowing, or even a normal appearing esophagus. The diagnosis of EE is made by showing a dense eosinophilic infiltrate in the esophageal mucosa by using standard H and E staining. The treatment of EE in adults includes topical steroid lavage with the use of a fluticasone inhaler.

Table 1: Causes of dysphagia

Oropharyngeal	*Esophageal*
Neuromuscular	***Mechanical obstruction***
Cerebrovascular accident	Benign strictures
Parkinson's disease	Webs and rings (Schatzki)
Brainstem tumors	Neoplasm
Multiple sclerosis	Diverticula
Amyotrophic lateral sclerosis	Vascular anomalies
Peripheral neuropathies (i.e., poliomyelitis)	Aberrant subclavian artery (dysphagia lusoria)
Mechanical Obstruction	Enlarged aorta (dysphagia aortica)
Retropharyngeal abscess	***Motility Disorders***
Zenker diverticulum	Achalasia
Cricopharyngeal bar	Spastic motility disorders
Cervical osteophyte	Scleroderma
Thyromegaly	Chagas disease
Skeletal Muscle Disorders	Miscellaneous
Polymyositis	***Miscellaneous***
Muscular dystrophies	Diabetes
Myotonic dystrophy	Alcoholism
Oculopharyngeal dystrophy	Gastroesophageal reflux
Myasthenia gravis	
Metabolic myopathies	
Miscellaneous	
Decreased saliva	
Medications, radiation	
Sjögren syndrome	
Alzheimer disease	
Depression	

(From Slesinger and Fordtran, Gastrointestinal and Liver Diseases 7th edition)

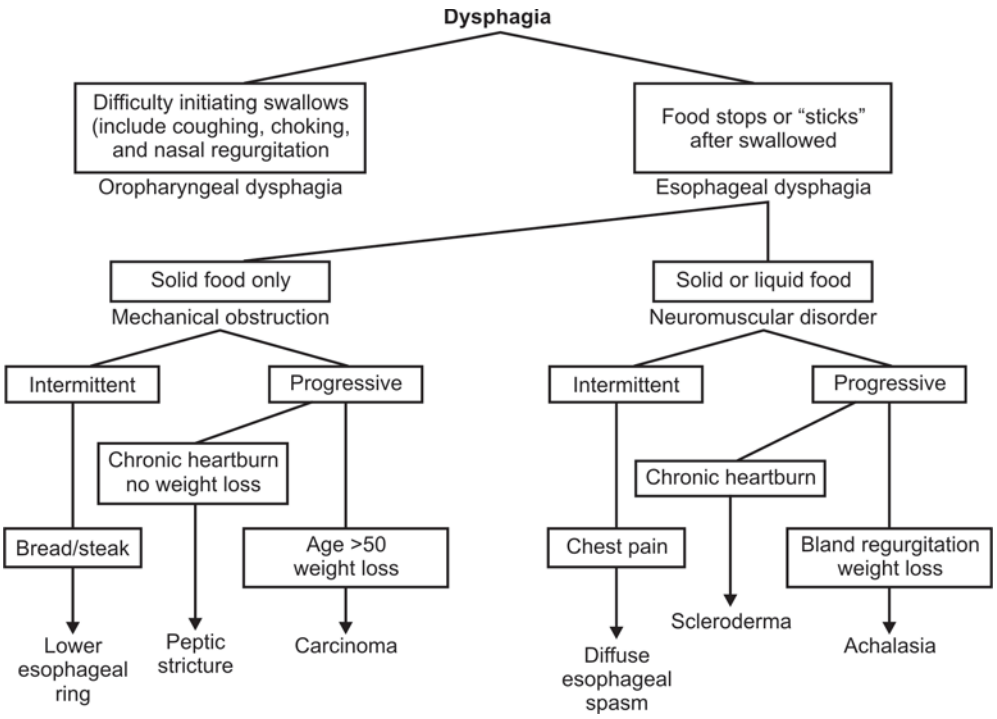
INVESTIGATIONS

- **Barium esophagogram or upper endoscopy?**
  - Upper endoscopy is the initial investigation of choice in patients with esophageal dysphagia as it can be both diagnostic and therapeutic: identifying mucosal lesions, biopsy specimens can be obtained, and dilatation can be performed.
  - In a recent study looking at findings on endoscopy for evaluation of dysphagia in over 1600 patients, major findings were found in 54% of patients. Male gender, heartburn and odynophagia were significant predictors of findings on endoscopy.
  - Barium evaluation may be more sensitive than routine endoscopy in detecting subtle esophageal narrowing caused by mucosal rings and is recommended as the primary test when there is a high suspicion for achalasia or proximal esophageal lesions. If the upper endoscopic and barium examinations are normal, mid and distal esophageal biopsy examinations, as well as esophageal manometry, may be indicated.
  - Video swallow examination is a technique which allows video recording of the patient swallowing barium mixed solids of varying consistencies as well as liquids: with special attention to the pharyngeal phase of swallowing. This would be the first investigation of choice in patients with history suggestive of "transfer dysphagia": disordered oropharyngeal phase of swallowing.
- **Esophageal biopsy**
  Routine mid and distal esophageal biopsy examinations in patients with dysphagia and a normal-appearing esophagus would seem reasonable to exclude EE. Others would restrict biopsy examinations to patients with ringed esophagus, or history of atopy. There is some controversy as to the role of gastroesophageal reflux in EE. The diagnosis of eosinophilic esophagitis is based on the presence of > / = 20 eosinophils per high-power field. Patients with reflux esophagitis rarely have > 5-10 eosinophils per high-power field.
  - **Esophageal manometry**
    Is a technique which helps assess esophageal peristalsis. A plastic tube with multiple pressure sensors is passed nasally into the esophagus. Peristalsis is then observed on a pressure wave tracing as the patient swallows sips of water. Two major disease processes cause esophageal aperistalsis and dysphagia: scleroderma, a connective tissue disorder, and achalasia. The classic manometric features of scleroderma include loss of peristalsis in the smooth muscle esophagus, with a low to low-normal lower-esophageal sphincter mean pressure. The manometric features for achalasia include aperistalsis (with simultaneous waves) and a poorly relaxing lower-esophageal sphincter that has an increased basal tone. Patients with diffuse esophageal spasm may have intermittent dysphagia to solids and liquids associated with chest pain. On esophageal manometry, there is a pattern of simultaneous contractions (at least 30%) interspersed with normal peristalsis.

TREATMENT

- Is predicated by the underlying etiology.

Flow chart 1



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- For oropharyngeal dysphagia, modification of dietary consistency, swallowing maneuvers to minimize aspiration and exercises to strengthen the pharyngeal muscles. Consider alternative (percutaneous gastrostomy tube) feeding route in severe cases. Treatment of the underlying disease (Parkinsons disease, myasthenia gravis, myopathies) may also help in improving symptoms.
- Benign strictures and rings can be treated endoscopically with dilation. Peptic strictures should also be treated with proton pump inhibitors.
- *Achalasia:* Surgical (myotomy) versus endoscopic balloon dilation versus botulinum toxin injection.
- *Malignancy:* Extrinsic versus intrinsic compression: surgery versus palliative stenting.
- Zenkers diverticulum, cervical osteophytes: surgery.

SUGGESTED READING

1. Arora AS, Yamazaki K. Eosinophilic esophagitis: asthma of the esophagus? Clin Gastroenterol Hepatol 2004;2:523-30.
2. Arora AS.Management strategies for dysphagia with a normal-appearing esophagus. Clin Gastroenterol Hepatol 2005;3(3): 299-302.
3. Roeder BE, Murray JA, Dierkhising RA. Patient localization of esophageal dysphagia. Dig Dis Sci 2004;49:697-701.
4. Spechler SJ. AGA technical review on treatment of patients with dysphagia caused by benign disorders of the distal esophagus. Gastroenterology 1999;117:233-54.
5. Varadarajulu S, Eloubeidi MA, Patel RS, Mulcahy HE, Barkun A, Jowell P, et al. The yield and the predictors of esophageal pathology when upper endoscopy is used for the initial evalua-tion of dysphagia Gastrointest Endosc 2005;61(7): 804-8.