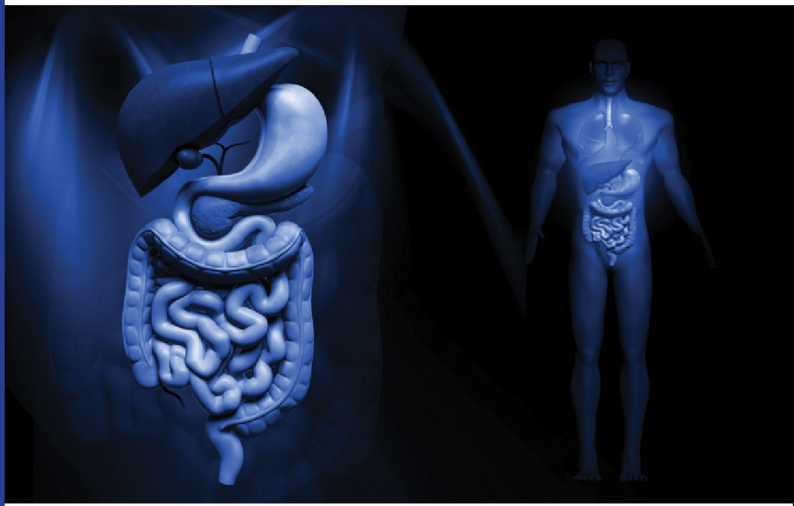
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Snapshots in Gastroenterology



S Devaji Rao

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Chapter 3

Dysphagia

SURGICAL ANATOMY OF ESOPHAGUS

Esophagus is a muscular tube connecting the pharynx and the stomach, guarded by sphincters at both ends. It is lined by squamous epithelium, excepting in its lower part and the esophagogastric junction, where it is lined by columnar epithelium. It lies anterior to the cervical vertebrae and lies in the posterior mediastinum, and enters the abdomen through a hiatus 'esophageal hiatus' of the diaphragm. The esophagus is devoid of serosal layer. The lower sphineter and the acute gastroesophageal angle prevent gastroesophageal reflux, and the esophagus normally remains empty.

PHYSIOLOGY OF SWALLOWING

Before the act of actual swallowing, preparation takes place (preparatory phase) in which chewing, sizing, shaping and positioning of the bolus on tongue take place. Then the actual act of swallowing starts.

Normal swallowing is a very complex mechanism consisting of coordination of four elements. They are:

1. Voluntary muscular contractions of oropharynx.
2. Protection of the larynx and respiratory passages by its striated muscles.

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3. Relaxation of esophageal sphincters.
4. Peristaltic wave.

Dysphagia may occur due to the derangement of one or more of the above four elements, or narrowing of the lumen by stricture or tumor or extraneous causes.

DYSPHAGIA

Introduction

Dysphagia is defined as difficulty in swallowing.

It is a very reliable symptom and should never be dismissed as psychological, unless proved otherwise.

For clinical purposes, dysphagia is divided into two varieties:

1. Oropharyngeal
2. Esophageal

Patients with dysphagia complain of the sensation of food sticking somewhere in its passage to the stomach, usually at the level of obstruction, but many times point at the suprasternal notch, even though the level of obstruction is far below.

Globus sensation is defined as the feeling of a lump in the throat. This is present as a continuous sensation and not related to dysphagia. The common causes of globus sensation are:

- Gastroesophageal reflux disease (GERD)
- Early malignancy of hypopharynx
- Anxiety disorder
- Goiter.

Pain can accompany dysphagia (Odynophagia), if there is associated esophageal spasm. Very severe pain may occur, which may be radiating to the base of neck, angles of jaw, arms, epigastrium and back. *Esophageal pain may mimic cardiac pain.*

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Heartburn is a retrosternal sensation of burning and discomfort, which occurs due to regurgitation of stomach contents into the normally empty esophagus, which may reach even the pharynx if the quantity is large ***(Water brash).***

Causes of Dysphagia

Oropharyngeal Dysphagia

Etiology

It has many causes. They are:

- Propulsive
- Structural
- Iatrogenic

Propulsive causes of oropharyngeal dysphagia are many but they are mainly neurological. They are given in **Table 3.1**.

Structural causes of oropharyngeal dysphagia are given in **Table 3.2**.

Iatrogenic causes of oropharyngeal dysphagia include the following:

Drug-induced

- Mucosal inflammation following chemotherapy
- Steroid myopathy.

Radiation-induced

- Xerostomia
- Oral ulcers.

Prosthesis-induced

- Ill-fitting dental prosthesis.

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Table 3.1: Propulsive causes of oropharyngeal dysphagia

Neurologic	Degenerative	Muscular	Metabolic	Inflammatory	Infectious
Cerebro-vascular accidents	Alzheimer's disease	Muscular dystrophy	Hyperthy-roidism with myxedema	Systemic lupus erythe-matosus (SLE)	Acquired immuno-deficiency syndrome (AIDS)
Parkinson's disease	Huntington's chorea	Myasthenia gravis		Amyloidosis	Syphilis
Multiple sclerosis	Recurrent laryngeal nerve palsy	Myositis		Sarcoidosis	Botulism
	Cranial nerve palsies				Rabies
					Diphtheria
					Meningitis

Table 3.2: Structural causes of dysphagia

Etiology	Oral cavity	Pharynx	Larynx	Esophagus
Congenital	Macroglossia	Pharyngeal pouch	Subglottic stenosis, laryn-gomalacia	Atresia
Traumatic	Injuries of oral cavity	Impacted foreign bodies (coin, tooth, dentures)	Injuries to larynx/laryngo-pharynx, Impacted foreign bodies	Postoperative and corrosive strictures, foreign bodies, radiotherapy
Inflammatory	Stomatitis, tonsillitis, peritonsillar abscess	Acute pharyngi-tis, retropharyn-geal abscess, cervical lympha-denopathy	Acute epiglotti-tis, tuberculous laryngitis	Reflux esophagitis, post-chemo-therapy fungal infections
Neoplastic benign	Benign tumors	Benign tumors	Benign tumors	Benign tumors

Contd...

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Contd...

Etiology	Oral cavity	Pharynx	Larynx	Esophagus
Neoplastic malignant	Carcinoma tongue, cancers of oral cavity	Carcinoma hypopharynx	Carcinoma larynx	Esophageal malignancy
Miscellaneous	Paralysis of soft palate (bulbar palsy)	Paterson-Kelly syndrome	Vocal cord palsy, neuroasthenia	Scleroderma, diffuse esophageal spasm, achalasia, paterson-Kelly syndrome, diverticula of the esophagus, para-esophageal hiatus hernia, pressure from extrinsic pathologies

Post-surgery

- Resections of oropharynx.

Esophageal dysphagia is almost always caused by diseases in and adjacent to the esophagus and rarely by the lesions in the pharynx or stomach. Esophageal narrowing causes dysphagia when the lumen is not able to expand beyond a diameter of about 10 mm. Chronic obstructions of esophagus like achalasia cardia, allow the patients to compensate and present at a very late date, but by this time, there is marked weight loss and severe undernutrition.

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Diagnosis

Symptoms and Signs

Oropharyngeal Dysphagia

- Inability to initiate the act of swallowing
- Sticky feeling of food in the throat
- Cough or choking sensation during swallowing
- Nasopharyngeal regurgitation
- Voice change
- Visual disturbances.

Esophageal Dysphagia

- Regurgitation
- Water brash
- Chest pain.

Complication

- Aspiration pneumonia.

Management

- Treatment of primary pathology
- Swallow therapy
  - Softening of food, optimizing food bolus volume, rate of bolus consumption
  - Tongue exercises
  - Psychotherapy.

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Clinical Pearls

- Patients with oropharyngeal dysphagia usually point to the level of obstruction as the oropharynx, but majority of patients with esophageal dysphagia are not able to recognize the level of obstruction, and point it proximal to the level of obstruction.
- Oropharyngeal and esophageal dysphagia do not coexist as anatomically these areas are different in respect to musculature, nerve supply and neural regulation.

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