

ADVANCES IN GERD

Current Developments in the Management of Acid-Related GI Disorders

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Oropharyngeal Dysphagia

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G&H How do you define oropharyngeal dysphagia to differentiate it from other esophageal disorders?

RS Dysphagia or swallowing disorder is characterized by the dysfunction of one or more parts of the swallowing apparatus. The swallowing apparatus begins with the mouth and includes the lips, the tongue, the oral cavity, the pharynx, the airway, and the esophagus and its sphincters, both upper and lower.

Abnormalities affecting the upper esophageal sphincter, pharynx, larynx, or tongue, in isolation or combination, result in oropharyngeal dysphagia affecting either or both transit and airway-protective functions of the oropharyngeal axis, whereas diseases affecting the esophagus mainly results in derangement of transit function. Symptoms in dysphagic patients reflect abnormalities of these two functions, (ie, transit and/or airway protection).

G&H Is oropharyngeal dysphagia associated with any particular disease state?

RS Dysphagia by definition is a symptom, which is the end result of a number of pathologies, the most common being stroke. However, there are many causes of oropharyngeal dysphagia, including neuromuscular, drug-induced, and structural etiologies (Table 1). Elderly patients are the population most commonly associated with oropharyngeal dysphagia.

G&H What are the presenting symptoms of oropharyngeal dysphagia?

RS Presenting symptoms vary in both characteristics and severity, depending on the underlying disease state

Table 1. Common Causes of Oropharyngeal Dysphagia

Peripheral/central nervous system
<ul style="list-style-type: none">• Stroke• Head trauma
Neurodegenerative disease
<ul style="list-style-type: none">• Parkinson• Amyotrophic lateral sclerosis• Multiple sclerosis• Alzheimer• Poliomyelitis/postpolio syndrome
Muscular/neuromuscular
<ul style="list-style-type: none">• Polymyositis/ dermatomyositis• Myasthenia gravis• Metabolic myopathy (eg, thyroid myopathy)• Muscular dystrophies• Kearns-Sayre syndrome
Local/structural lesions
<ul style="list-style-type: none">• Head and neck tumors• Surgical resection of the oropharynx/larynx• Radiation injury• Zenker diverticulum• Extrinsic compression (eg, goiter, cervical osteophyte)• Chricopharyngeal achalasia
Drugs

or injury, and range from unreported, or silent, aspiration to frequent throat-clearing to difficulty swallowing food (Table 2).

G&H Are there any medical therapies to alleviate the symptoms of dysphagia?

RS There is no dysphagia-directed drug that can be administered. Some of the common underlying conditions, including hypothyroidism, can be treated medically, which in turn will improve the swallowing disorder. However, there is no pharmacotherapy that targets the regeneration of nerves or strengthening of muscles to alleviate dysphagia specifically.

G&H What are the therapeutic options for these patients?

RS A minority of dysphagic conditions are amenable to curative therapy. An esophageal stricture can be dilated.

Table 2. Symptoms of Oropharyngeal Dysphagia

- Inability to keep the bolus in the oral cavity
- Difficulty gathering the bolus at the back of the tongue
- Hesitation or inability to initiate swallow
- Food sticking in the throat
- Nasal regurgitation
- Inability to propel the food bolus caudad into the pharynx
- Difficulty swallowing solids
- Frequent repetitive swallows
- Frequent throat clearing
- Gargly voice after meal
- Hoarse voice
- Nasal speech and dysarthria
- Swallow-related cough: before, during, and after swallowing
- Weight loss
- Recurrent pneumonia

Surgical procedures can also be utilized in some patients. Cricopharyngeal myotomy is helpful in patients with Zenker diverticulum or other conditions that cause dysfunction of bolus outflow from the pharynx to the esophagus. Vocal cord augmentation (either temporarily with the injection of gel foam, collagen, or fat or permanently through the injection of Teflon) has been shown to be effective in the prevention of mild aspiration in patients with inadequate laryngeal closure.

The majority of oropharyngeal dysphagia patients require rehabilitation through physical therapy and dietary alteration. Dietary alterations require the participation of both the patient and their family members to modify the way their food is prepared and to omit those foods that present a challenge in terms of swallowing. Some patients require soft or pureed foods. Others may simply require manipulation of the bolus size (ie, smaller bites). Dietary changes should focus on alleviating the difficulties of dysphagia while allowing for adequate nutrition and maintaining the patient's pleasure in eating.

Physical therapy regimens are designed to strengthen the muscles involved in swallowing and enhance the quality of the mechanism. These techniques include a procedure of multiple dry swallows following the swallow of food to enhance pharyngeal closure and reduce pharyngeal residue; supraglottic swallow, where the patient takes a deep breath and bears down while swallowing, followed by a cough, to close the airway and reduce aspiration; Mendelsohn's maneuver, where the patient generates a sustained laryngeal and hyoid bone elevation following the swallow to prolong the upper esophageal sphincter opening and enhance emptying; and the Shaker exercise, a regimen of isotonic and isometric head raises from a supine position to strengthen the traction forces of the suprahyoid muscles. There are also a variety of postural

techniques that can be utilized, including chin-tuck, chin-up, and head rotation or tilting, to promote safe passage of the food bolus and reduce or eliminate aspiration.

G&H What are the diagnostic techniques that are used to pinpoint the exact cause of oropharyngeal dysphagia and determine the appropriate course of treatment?

RS Modified barium swallow and unsedated transnasal videoescopy are the examinations that yield the best diagnostic information and also indicate which therapeutic modalities are most appropriate. These techniques can also be utilized to evaluate response after patient treatment.

The modified barium swallow study or videofluoroscopic study consists of real-time videofluoroscopic recordings made as the patient swallows a variety of boluses of different consistencies and volumes. The recordings can be saved and viewed in slow motion or frame-by-frame for thorough analysis. Unsedated transnasal videoescopy is an outpatient endoscopic procedure where a small-diameter endoscope is inserted through the nose and positioned at the level of the posterior nares, which allows for the observation of the pharyngeal seal during swallowing. The scope can then be advanced to examine the effective closure of the glottis while the patient makes specific vowel sounds, coughs, and performs the Valsalva maneuver. Finally, 5–10 mL of colored water bolus is given to the patient, who is asked to hold it for 20 seconds. The back of the tongue is observed for unilateral or bilateral spill and leakage of colored water into the airway. In this way, abnormal tongue or palate control can be observed. The larynx and pharynx are evaluated subsequent to swallowing the colored water and presence or absence of residue and aspiration is determined.

The two techniques are complementary. Whereas both can be utilized to ascertain the presence of aspiration and residue, videofluoroscopy provides invaluable information on the physiology of swallow and biomechanical events and phases of aspiration. Endoscopy, on the other hand, provides sensory information and information regarding mucosal/luminal abnormalities.

Suggested Reading

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