Geriatric Dysphagia

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KEYWORDS

• Geriatric dysphagia • Dysphagia team • Aspiration pneumonia
• Cricopharyngeal spasm

KEY POINTS

- All geriatric patients should be screened for potential dysphagia. Because swallowing problems can be regarded as a normal part of aging by patients and families, it may not be brought up as a complaint unless the physician makes a specific inquiry.
- The key to diagnosis lies in a detailed and thorough history. Reported symptoms will guide further testing. Similarly, detailed understanding of the current diet will determine the urgency of intervention to improve nutritional intake and prevent complications such as aspiration pneumonia.
- Successful management requires a dysphagia team. Although many surgical treatment options are available, the most important part of successful management is rehabilitation and diet modification.

INTRODUCTION

Among the disorders precipitated by diseases accompanying aging, perhaps that with the most impact on quality of life is dysphagia. This is particularly true in patients who have undergone treatment of tumors of the head and neck, who are often affected with severe dysphagia that worsens with age and is discussed elsewhere in this issue. However, many other ailments of aging, common and uncommon, affect swallowing. The extent of the problem is immense, with 40% of institutionalized older adults having a diagnosis of dysphagia. In some instances, the effect on swallowing leads to death due to aspiration or inanition. The otolaryngologist plays a central role in the management of dysphagia, not only as the treating physician but also as the expert guiding crucial end-of-life decisions. This article focuses on critical knowledge to guide clinical decision-making rather than technical details of workup and surgical procedures.

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Normal Swallowing Function

There are numerous texts describing normal and abnormal swallowing function; therefore, this article only reviews the highlights. Normal swallowing is empirically divided into 4 phases, the first 2 of which, the oral preparatory phase and the oral phase (often referred to as the horizontal subsystem), create and move the bolus under voluntary control into position, then triggering the so called vertical subsystem by pressure against the soft palate. The vertical subsystem consists of the involuntary laryngopharyngeal and the esophageal phases, moving the bolus through the pharynx, by the larynx, and through the esophagus into the stomach. Although often addressed as separate functions, in reality all phases are coordinated and often overlap significantly. Failure in any of the phases, such as inability to form a cohesive bolus during mastication, can impair the function of the pharyngeal phase. Although clinical evaluations typically focus on the laryngopharyngeal phase because it is this phase in which the greatest number of coordinated events must occur, impairment often occurs in multiple phases. Airway protection must precede bolus transport, and must be maintained until the bolus has passed in its entirety. Glottic closure during the laryngopharyngeal phase occurs in a different sequence than closure for coughing or speech, and hyolaryngeal elevation not only cantilevers the epiglottis over the glottic opening but also actively distracts the cricoid ring to distract the cricopharyngeal (CP) muscle and open the upper esophageal sphincter (UES). Moving the bolus through the pharynx and UES requires only about 0.7 seconds in normal young individuals but may be prolonged in normal-aged but asymptomatic individuals. Once through the UES into the esophagus, orderly peristaltic waves transport the bolus at a velocity of 2 to 4 cm/s into the distal esophagus, then through the lower esophageal sphincter, requiring less than 10 seconds in normal patients. The upper esophagus, consisting of striated muscle, is under central neural control, as are the pharyngeal muscles; however, the smooth muscle of the distal esophagus is intrinsically innervated, as well as subject to extrinsic control by the vagus.

Normal Swallowing in the Elderly

Swallowing changes, often termed presbyphagia, occur with normal aging. An understanding of swallowing in the normal elderly, as well as knowledge of the range of disorders is needed in planning interventions.

Robbins and colleagues[1] have extensively studied and described swallowing in normal, community-dwelling older adults. In normal subjects, changes accompanying aging are minimal and are unaccompanied by symptoms, thereby escaping detection except in focused investigations. Some of these changes are listed in **Box 1**. The most

Box 1
Characteristics of presbyphagia

Differences in swallowing function in normal-aged individuals

1. Slowing of pressure rise during pharyngeal swallowing
2. Reduced maximum isometric tongue pressure
3. Persistent cricopharyngeal bar on barium studies
4. Persistent residue following swallow
5. Increased likelihood of nonpathologic penetration
6. Various forms of esophageal dysmotility
7. Slowing of esophageal transit time