

Swallowing Importance and Dysphagia

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with sensory information by afferent nerve fibers from a few cranial nerves. The swallowing centers also receive modulatory input from higher centers inside the brain. Thus, a swallow has both intentional and automatic physiologic components and dysphagia is given to difficult swallowing [1].

Swallowing stages

Swallowing consists of four stages: the preparative, the oral, the pharyngeal and the esophageal stage. The preparatory stage is voluntarily guided by chewing and mixing the bolus with the saliva. The oral stage is characterized by the final configuration of the bolus in a spherical shape and then it is transferred through the tongue into the pharynx in order to activate the pharyngeal swallowing stage. In the pharyngeal stage the bolus moves gently across the pharynx and is directed towards the esophagus.

Finally, in the esophageal stage, the bolus is transferred from the esophagus to the stomach [2].

Definition of dysphagia

Dysphagia is defined as troublesome and/or cluttered swallowing, which characterized by an unusual transfer of the bolus and fluids, from the oropharynx to the stomach, because of abnormalities in the important structures of ingestion and in its mobility. Dysphagia may be a common indication within the common population, however, dysphagia continuously represents a pathologic process [1-3].

Dysphagia may involve a swallowing stage or a combination of stages. This situation causes a harmful swallowing and put the patient at risk for malnutrition dehydration, swallowing ineffective and feeding inadequate [2].

The importance of eating and swallowing

Swallowing is extremely important since it plays a significant role of the enjoyment of eating and the adequate nutrition and hydration. Any deficiency to the process of swallowing can negatively affect a person's quality of life. The process of swallowing is exceedingly complex and includes muscles within the mouth, pharynx, larynx, and esophagus. The oropharynx is the anatomical region encompassing the oral cavity and the pharynx. Food must be formed into a bolus and transported to the pharynx by the tongue and then it must be transferred through the pharynx to the esophagus without entering the larynx from the vocal cords to the trachea. The muscles required for all these steps are facilitated by swallowing centers within the brainstem which are supplied

Dysphagia can be caused by functional or structural deficiencies, which can be related to the oral cavity, pharynx, esophagus, or gastric cardia. It is imperative to discriminate between oropharyngeal and substernal esophageal dysphagia, since potential causes, evaluation and treatment may vary according to the patients' symptoms [4].

Reasons of dysphagia

There is a wide range of diseases that can cause disturbance to the ordinary swallowing resulting in dysphagia. Eating and swallowing disorders often cause lack of healthy sustenance, lack of hydration and aspiration pneumonia, which lead to mortality and unhealthiness [1].

Dysphagia consists the outcome of a benign or malignant structural lesion, esophageal motility abnormalities, oropharyngeal dysfunction, neuromuscular disorders, postsurgical changes or a gastroesophageal reflux disease. Pathologic conditions of the oral cavity, pharynx, esophagus, and stomach can lead to dysphagia [4].

Taking into account the complexity and multiple causes of dysphagia, it is important to differentiate the level of pathology at an early stage during the evaluation, as the differential diagnosis, work up, and management can be considerably different. It is crucial to distinguish the level of pathology through an excessive evaluation, as the differential diagnosis can be significant for the appropriate treatment [3].

Symptoms of dysphagia

The normal swallow mechanism involves the passage of the nourishment bolus from the oropharynx to the esophagus. Drooling, coughing, nasal regurgitation, aspiration, or choking are symptoms of oropharyngeal dysphagia, which can generally arise within seconds after swallowing, as it is often reported by patients [3].

Patients with dysphagia may experience the sensation of food getting stuck in the throat or chest, coughing or choking during swallowing. Moreover, it is usual that people who suffer from dysphagia, present a voice hoarseness, frequent throat clearing, otalgia, malnutrition, dehydration and pneumonia. Patients experiencing "swallowing problems" could be suffering from dysphagia, odynophagia, globus sensation, and/or heartburn [4].

Patients who indicate symptoms of food stuck in gums or in the oral cavity, failure to create a bolus within the mouth, coughing, or aspiration pneumonia should undergo further evaluation of oropharyngeal dysphagia. What's more, "silent aspiration," which is, aspiration without cough or other signs may be threatened for patient's life since there is no indication of aspiration [3].

Patients with silent aspiration have an increased risk of complications of aspiration such as aspiration pneumonia, due to lack of recognition of the problem and a diminished ability to protect the airway compared with patients who exhibit non-silent aspiration (i.e. cough reflex) [5,6].

Assessment of dysphagia

Dysphagia is a common clinical problem, and imaging is imperative for evaluating patients who have difficulty swallowing. Barium studies are still considered as the most preferred method for evaluating patients with dysphagia because they allow the assessment of function and morphology during the swallowing process from the mouth to the stomach [4].

A detailed imaging assessment of patients with dysphagia includes evaluation of the pharynx, esophagus, and gastric cardia. The evaluation should be customized to the needs of each patient. Patients who cough upon swallowing, may need to undergo an assessment of swallowing function before an extensive investigation of the esophagus and evaluation for gastroesophageal reflux [4].

Aspiration is diagnosed during a videofluoroscopic evaluation of the swallow, when the ingested bolus extends inferiorly through the genuine vocal cords into the proximal trachea [4].

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