

Short Communication

Swallowing Impairment in Critically Ill Patients

Fallahian F*

Pulmonology and Critical Care Fellowship, Shohadaye Haftom Tir Hospital, Iran University of Medical Sciences, Tehran, Iran

***Corresponding author:** Farahnaz Fallahian, Pulmonology and Critical Care Fellowship, Shohadaye Haftom Tir Hospital, Iran University of Medical Sciences, Tehran, Iran

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Abstract

Head and spinal cord trauma, diseases of peripheral nervous system, muscular weakness may be associated with respiratory dysfunction and swallowing disorders. Involvement of upper airway muscles, including muscles of mastication (cranial nerve V, VII), laryngeal and pharyngeal nerves (cranial nerves IX, XII), may predispose subject to aspiration. Chronic coughing, weight loss, and repeated episodes of aspiration pneumonia are major symptoms in patients with disordered swallowing. Early detection of drop in consciousness, cough strength, swallowing and airway protection due to pharyngeal and laryngeal muscle dysfunction and dysphagia, respiratory support and regarding intubation, placement of nasogastric tube feeding or percutaneous endoscopic gastrostomy tube is recommended.

Keywords: Swallowing evaluation; aspiration pneumonia; Lesion analysis; intensive care unit

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Bolus preparation is a separate process and may involve chewing (cranial nerve V motor and sensory), mouth closure (VII), manipulation and retrieval of the bolus (V, VII, XII), and initial propulsion of the bolus (VII and XII) [1].

In a study included 44 stroke patients, concluded: The vast majority of patients with an initial nonoral feeding recommendation are discharged with oral intake restrictions indicating a continued need for swallowing assessments and treatment after discharge. Lesion locations associated with motivation, reward, and drive to consume food as well as swallowing impairment, higher age, and more comorbidities were related to less oral intake improvement [2].

Predicting the duration of post stroke dysphagia is important to guide therapeutic decisions. The Predictive Swallowing Score, available as a smartphone application, is an easily applied prognostic instrument that reliably predicts swallowing recovery. It will support decision making for Nasogastric Tube (NGT) feeding or percutaneous Endoscopic Gastrostomy (PEG) insertion after ischemic stroke and is a step toward Personalized medicine [3]. Dysphagia is a common deficit after a stroke, and it is frequently associated with pneumonia, malnutrition, dehydration, and poor quality of life. It is not yet fully clear which brain regions are directly related to swallowing, and how lesions affect swallow physiology. Future studies are needed to expand on our findings and thus, support the development of a neuroanatomical model of post-stroke swallow physiology and treatment approaches targeting the neurophysiological underpinnings of swallowing post stroke [4]. Various methods of rehabilitation for dysphagia have been suggested through the experience of treating stroke patients. Nutrition combined with nasogastric tube feeding or percutaneous endoscopic gastrostomy feeding should be considered owing to the increased risk of aspiration and difficulty administering oral nutrition [5].

Swallowing impairment (dysphagia) has been reported as a possible sequel following surgical removal of Posterior Fossa tumors (PFT). No participant had dysphagia pre-surgically. Seventy three

percent (8/11) had dysphagia at 1-2 weeks post-surgery, primarily characterized by impaired lip closure (8/8), poor mastication (8/8), and inefficient oral transit (8/8). Overall however, prognosis appeared positive, with 75% (6/8) of participants managing a full oral diet at 2 months post-surgery [6]. We report an association between lower cranial nerve (CN IX/X) vascular compression at the brainstem with laryngeal symptoms utilizing a stepwise algorithm that systematically evaluates and eliminates all other common etiologies. Our experiences with retromastoid craniectomy with Lower Cranial Nerve (LCN) decompression versus non-neurosurgical treatments are detailed. Lower cranial nerve compression at the brainstem should be considered when all other etiologies are excluded. Retromastoid craniectomy with LCN decompression demonstrates an acceptable safety profile [7].

Patients intubated for prolonged times should be evaluated with a bedside swallow exam before initiating oral feeding. Post-extubation dysphagia is associated with an increased incidence of nosocomial pneumonias, longer hospitalizations, and higher re-intubation rates [8]. Depending on the nature of complaints and symptoms, patients may best be evaluated either by a single provider (a laryngologist) or by an interdisciplinary team that includes a speech-language pathologist. If not scheduled appropriately, the provider and the patient may lose valuable time, resources, and money. Examining the available data on referral patterns, as this study has done, has the potential to inform providers how to better anticipate their patients' needs and also improve clinic operations [9].

Evaluation of dysphagia is performed by neurologist, endoscopy physician, speech-language pathologist for assessment of head and neck, weakness, obstruction or retained secretions of tongue, hypopharynx and larynx. Mapping lesion locations, identifying region and type of swallowing disorder for specific exercises or compensatory strategies is recommended.

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