

Swallowing Endoscopy in Oncology

Dysphagia (swallowing difficulty) is an extremely debilitating condition, and in addition to causing immense impact on quality of life, it can, at times, prove to be life-threatening. While it is evident that patients of head and neck cancer would have a higher predisposition to dysphagia, other cancers are not spared the misery altogether. While the role of chemotherapy and radiation in organ preservation cannot be undermined, the fact remains that organ preservation may not translate into function preservation. Swallowing itself is a complex process with five cranial nerves and >20 muscles involved.^[1] Any pathology affecting them can result in dysphagia. The symptom spectrum of dysphagic patients may range from food getting stuck in the throat to choking on swallowing and on to the more sinister recurrent respiratory tract infections without any apparent swallowing difficulty.

Assessment of dysphagia includes both clinical and instrumental evaluation. Videofluoroscopy of swallowing and the fiberoptic endoscopic evaluation of swallowing (FEES) are considered the standard instruments for the objective assessment of dysphagia. The FEES, from its first Published in 1988^[2] to its present-day, has remained the same in principle; however, the scope has expanded. FEES is a safe and effective procedure to study the pharyngeal phase of swallowing. The technique involves the insertion of a flexible nasolaryngoscope through the nostril and maintaining it such that a panoramic view of the larynx and hypopharynx is visualized. The patient is orally given feeds of various consistencies and volumes, and the pharyngeal and laryngeal movements during swallowing are noted. Alongside, premature leakage of food into the pharynx, its persistence in the pharynx after completion of a swallow (residues), or the passage of food beyond the vocal cords (aspiration) are noted. The ominous silent aspiration, wherein there is food passage beyond the vocal cords in the absence of cough, can be well noted during the examination. The FEES study can be combined with a sensory testing study (FEESST) to evaluate the sensory reflexes of the larynx.^[3] While FEES does not evaluate the oral phase of swallowing, certain inferences regarding oral holdup or stasis and premature leakage can be drawn during the endoscopy.^[4] Therapeutic guidelines have to be customized for individual patients, and compensatory techniques, maneuvers, and postural techniques can be performed during the examination and the efficacy noted.

Factors predictive of dysphagia in cancers may be patient related, tumor related, or treatment related. The patient's baseline swallowing function, the T and N stages, the site of tumor, and the treatment given (organ preservation techniques vs. surgery, etc.) are some of the factors predictive of dysphagia.^[5] There is evidence affirming the need for a pretreatment swallowing assessment in head and

neck cancers. This is especially true in higher stages of cancer. This could, therefore, be a point of consideration for determining candidacy for organ preservation techniques.^[6]

Dysphagia following radiotherapy or chemoradiation for head and neck cancers has been well documented. At the same time, there is enough scientific evidence pointing to compromised quality of life and depression in patients of dysphagia, following treatment for cancer.^[7] Tube feeding, which seems a logical alternative to swallowing dysfunction, may not significantly alter the quality of life parameters for the patients.^[8] Pretreatment swallowing exercises have been shown to improve the quality of life as regards dysphagia in patients of head and neck cancer undergoing radiation and chemoradiation.^[9] Similarly, early posttreatment swallowing assessment and exercises are associated with improved outcomes.^[10]

Patients of head and neck cancer would benefit from pretreatment as well as posttreatment swallowing assessment.^[5] In addition, patients who have completed treatment for other cancers and complain of dysphagia are all potential candidates for swallowing assessment. Usually, these patients have typical symptoms of "high" dysphagia, namely food sticking to the throat, choking on food and liquids, or just inability to swallow. Most of these patients would benefit from a swallowing assessment and consequent therapy.

In a world where rehabilitation plays as significant a role as the treatment itself, the importance of a good swallowing assessment cannot be overemphasized.

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References

1. Matsuo K, Palmer JB. Anatomy and physiology of feeding and swallowing: Normal and abnormal. *Phys Med Rehabil Clin N Am* 2008;19:691-707, vii.
2. Langmore SE, Schatz K, Olsen N. Fiberoptic endoscopic examination of swallowing safety: A new procedure. *Dysphagia* 1988;2:216-9.
3. Aviv JE, Kim T, Sacco RL, Kaplan S, Goodhart K, Diamond B, et al. FEESST: A new bedside endoscopic test of the motor and sensory components of swallowing. *Ann Otol Rhinol Laryngol* 1998;107:378-87.

4. Langmore SE. Endoscopic Evaluation of Oral and Pharyngeal Phases of Swallowing. *GI Motility*, online. 2006. doi: 10.1038/gimo28. [Published on 2006 May 16].
5. Denaro N, Merlano MC, Russi EG. Dysphagia in head and neck cancer patients: Pretreatment evaluation, predictive factors, and assessment during radio-chemotherapy, recommendations. *Clin Exp Otorhinolaryngol* 2013;6:117-26.
6. Starmer H, Gourin C, Lua LL, Burkhead L. Pretreatment swallowing assessment in head and neck cancer patients. *Laryngoscope* 2011;121:1208-11.
7. Nguyen NP, Frank C, Moltz CC, Vos P, Smith HJ, Karlsson U, *et al.* Impact of dysphagia on quality of life after treatment of head-and-neck cancer. *Int J Radiat Oncol Biol Phys* 2005;61:772-8.
8. Terrell JE, Ronis DL, Fowler KE, Bradford CR, Chepeha DB, Prince ME, *et al.* Clinical predictors of quality of life in patients with head and neck cancer. *Arch Otolaryngol Head Neck Surg* 2004;130:401-8.
9. Kulbersh BD, Rosenthal EL, McGrew BM, Duncan RD, McColloch NL, Carroll WR, *et al.* Pretreatment, preoperative swallowing exercises may improve dysphagia quality of life. *Laryngoscope* 2006;116:883-6.
10. Wilson JA, Carding PN, Patterson JM. Dysphagia after nonsurgical head and neck cancer treatment: Patients' perspectives. *Otolaryngol Head Neck Surg* 2011;145:767-71.

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