Glossopharyngeal Nerve Palsy Following Tonsillectomy: An Unusual Complication & Its Potential Treatment

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Educational Objectives

- Understand the clinical presentation and examination findings in a patient with post-tonsillectomy glossopharyngeal nerve palsy
- Discuss the impact of the McNeill Dysphagia Therapy Program (MDTP) in treating severe dysphagia secondary to post-tonsillectomy glossopharyngeal nerve palsy

Introduction

- The glossopharyngeal nerve lies in close proximity to the tonsillar fossa making it susceptible to injury during tonsillectomy, though it is uncommonly injured in practice.
- This poster highlights a rare case of severe dysphagia due to glossopharyngeal nerve palsy following tonsillectomy, and demonstrates the potential benefit of an aggressive exercise-based rehabilitation program for improving swallowing.

Case Description

A 37-year-old female presents one-and-a-half months after routine tonsillectomy with **persistent dysphagia**, significant **weight loss**, bilateral **otalgia**, and **ear itching**.

Past Medical History:
- Cardiomyopathy
- GERD
- Recurrent tonsillitis

Physical Exam (including laryngoscopy):
- Pooled vallecular and hypopharyngeal secretions
- Decreased palatal elevation
- Decreased gag sensation
- Hypernasality
- Functional Oral Intake Score (FOIS) of 4/7

*Videofluoroscopic swallow study (VFSS) on **POD 71*** (Figure 1)*:*
- Posterior tongue weakness
- Persistent vallecular residue
- Aspiration
- Decreased pharyngeal constriction
- Decreased tongue base retraction
- Nasal regurgitation

Other concerns:
- Phagophobia
- Multiple personal stressors

Treatment:
- McNeill Dysphagia Therapy Program (MDTP)[1,2]
- Cognitive behavioral therapy (CBT)
- Nutritional supplementation & PPI

Response:
- FOIS = 6/7 within three weeks of initiating MDTP
- Patient regressed significantly after electing to discontinue MDTP early, but upon resumption of above treatments she advanced to a full, unrestricted diet, FOIS = 7/7

*VFSS on **POD 334*** (Figure 2)***:***
- Significantly improved dysphagia
- Less pharyngeal residue
- No aspiration
- Significant improvement in overall physiology as scored by the Modified Barium Swallowing Impairment Scale (MBSImp) (see Table 1)

Table 1: MBS Impairment Scale (MBSImp)[3]

	Oral Phase	Pharyngeal Phase
Baseline (POD 71)	13	14
Final (POD 334)	1	1

Note: Oral phase scores range from 0 to 22 and pharyngeal phase scores range from 0 to 29, with higher scores correlating with more severe impairment.

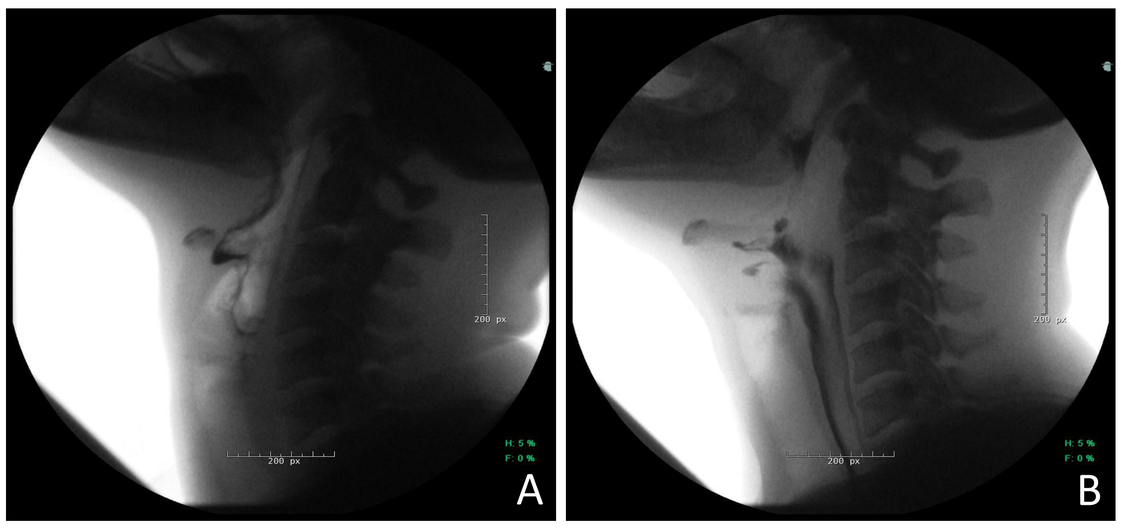

Figure 1 Baseline VFSS: (A) Head in extension to help propel bolus into pharynx as postural compensation for decreased lingual sensation. (B) Nasal regurgitation and laryngeal penetration. The patient also had evidence of aspiration as well as a moderate amount of pharyngeal residue (not pictured here).

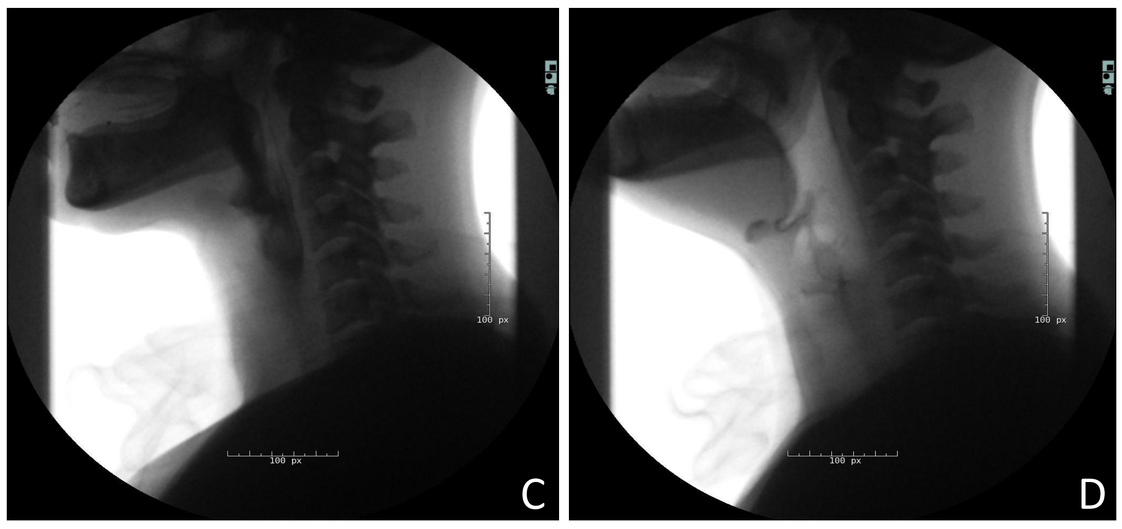

Figure 2 Final VFSS: (C) Head in midline posture; no nasal regurgitation, penetration, or aspiration during swallow. (D) Negligible post-swallow pharyngeal residue.

Discussion

McNeill Dysphagia Therapy Program (MDTP)
- Exercise science-based framework for re-training the sensorimotor neuromuscular activities of swallowing using increasingly resistive forces and variations in movement velocity. [1,2]
- Superior clinical and functional outcomes have been shown in patients with dysphagia using MDTP therapy compared to traditional swallowing therapy.[3]

Cognitive Behavioral Therapy applied to Dysphagia
- Counseling and systematic stimulus exposure to help normalize sensory dysfunction are critical in conquering phagophobia
- Education regarding the interaction between psychological stressors, oral and pharyngeal swallowing physiology, and GERD/LPR is important for patient understanding and satisfaction

Other Factors to Consider
- Clinician support through routine outpatient visits and 24-hour phone availability aids in adherence to MDTP and swallow rehabilitation.
- Some improvement noted with anti-reflux precautions and medication.

Our patient
- FOIS increased from 4 to 6 within three weeks of initiating therapy
- Regression due to non-compliance and fear
- By the end of therapy, patient had improved to near normal oral and pharyngeal swallowing

Conclusions

Glossopharyngeal nerve palsy should be suspected in post-tonsillectomy patients with persistent dysphagia. MDTP appears to be an effective method for alleviating dysphagia. Our patient showed a marked improvement in VFSS findings, FOIS, and objective MBSImp measures with this program. Cognitive behavioral therapy may help in cases of phagophobia, and clinician support and routine follow-up are important adjuncts to achieving success.

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