

QUALITY OF LIFE OUTCOMES OF SECONDARY PHARYNGOPLASTY IN POST-LARYNGECTOMY DYSPHAGIA AND STENOSIS PATIENTS

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Background

- Swallowing function is altered in patients after total laryngectomy (TL)
- Patients may experience pharyngoesophageal dysphagia characterized by:
 - poor bolus propulsion through the neo-pharynx
 - incomplete pharyngeal clearance
 - reduced bolus flow through the cricopharyngeal segment
- Other factors and treatments such as radiation can lead to increased dysphagia severity
- Many patients require multiple dilation procedures due to stenosis or dysphagia following total laryngectomy
- The goal of this case series is to establish if there is a benefit to swallowing outcomes and other metrics in patients who have undergone total laryngectomy, followed by conservative management, including dilations, who were then treated with pharyngoplasty

Methods

- Three researchers conducted a retrospective chart review of all patients who underwent total laryngectomy at a single tertiary medical center from 2010-2020 (n=328)
- Included were patients over 18 years of age, with history of TL with dysphagia and pharyngeal or esophageal stenosis, with failure of conservative management (e.g., dilation), followed by pharyngoplasty
- Excluded were patients with active cancer at the time of pharyngoplasty, or pharyngoplasty done simultaneously with initial TL

Image 1: Pharyngeal Stenosis

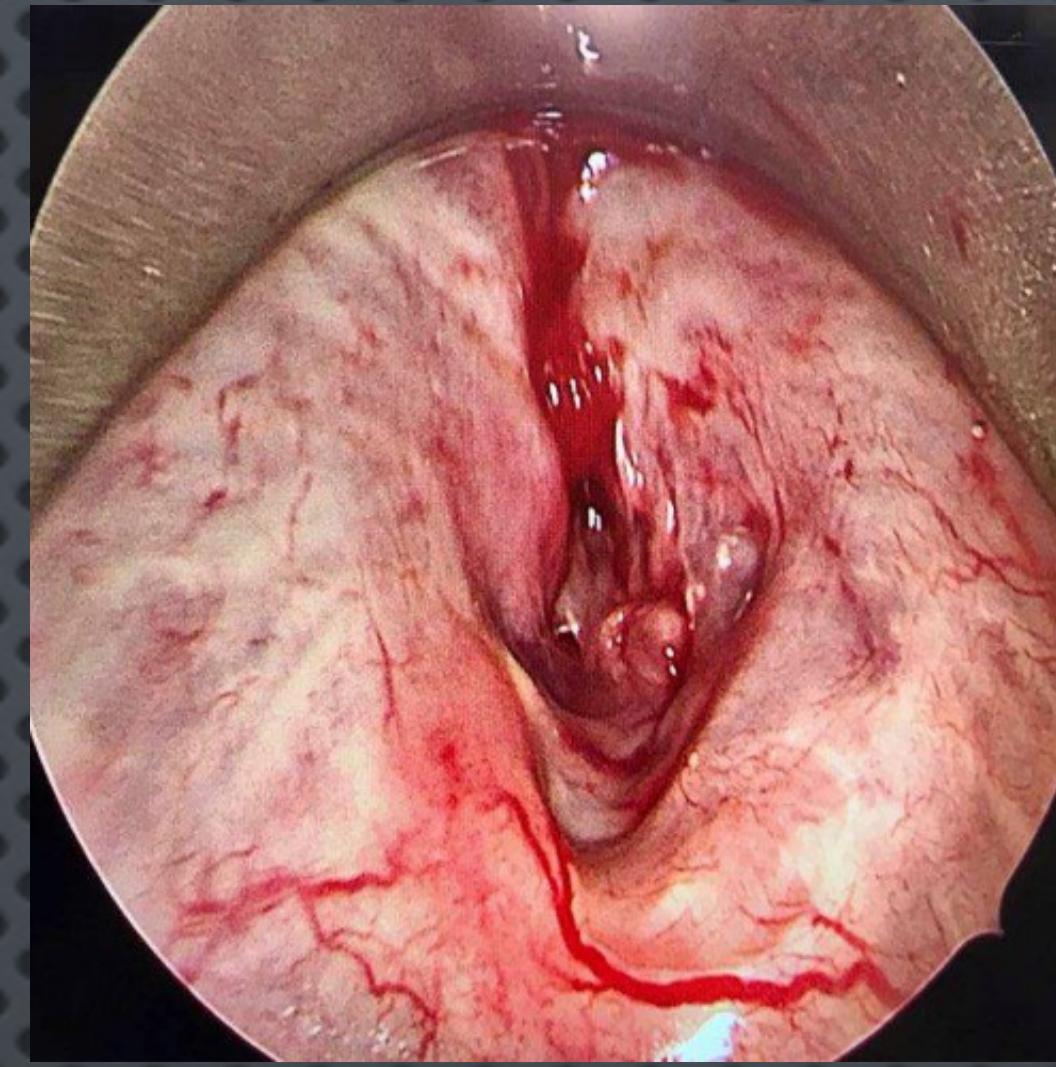


Image 2: Pharyngeal Stenosis

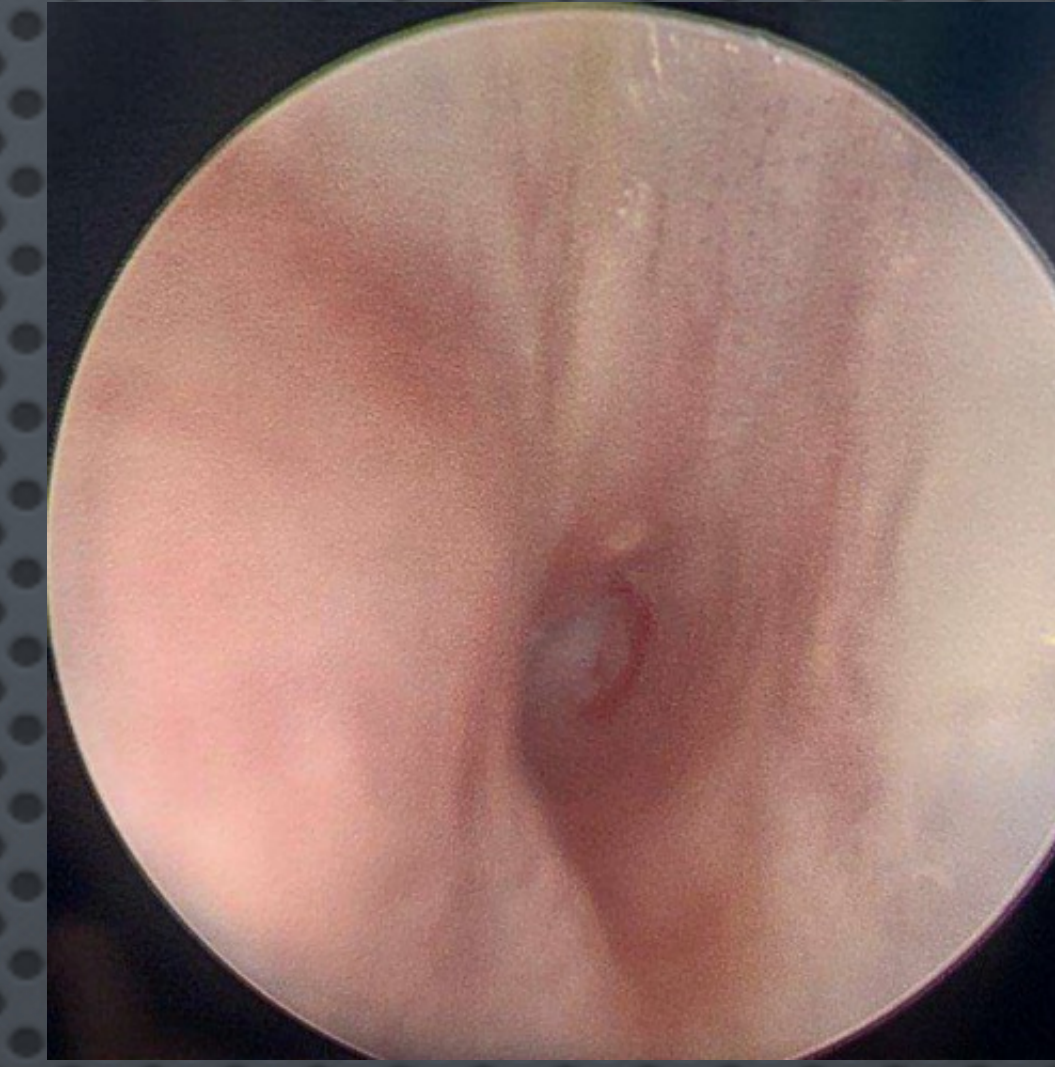


Image 3: Pharyngeal Stenosis

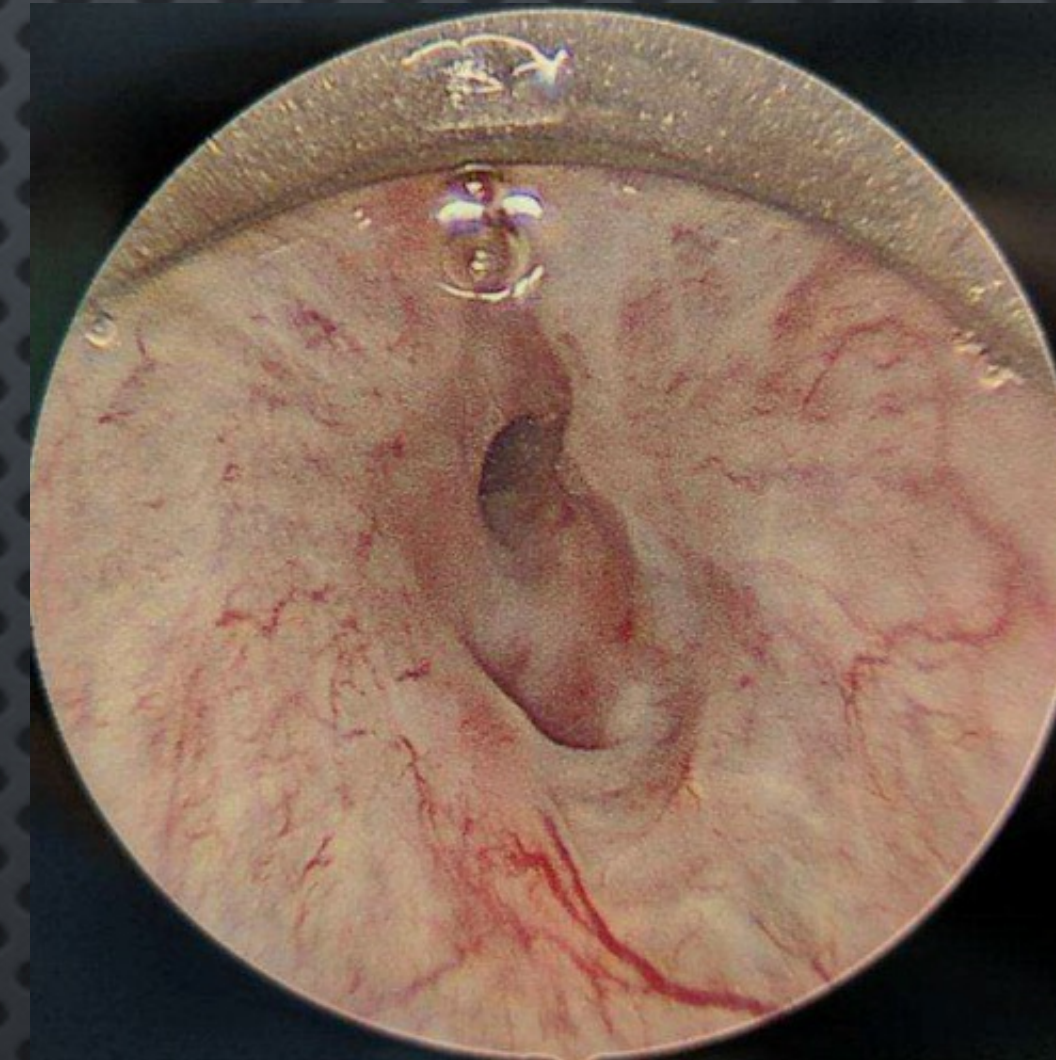


Image 4: Neopharyngeal Dilation

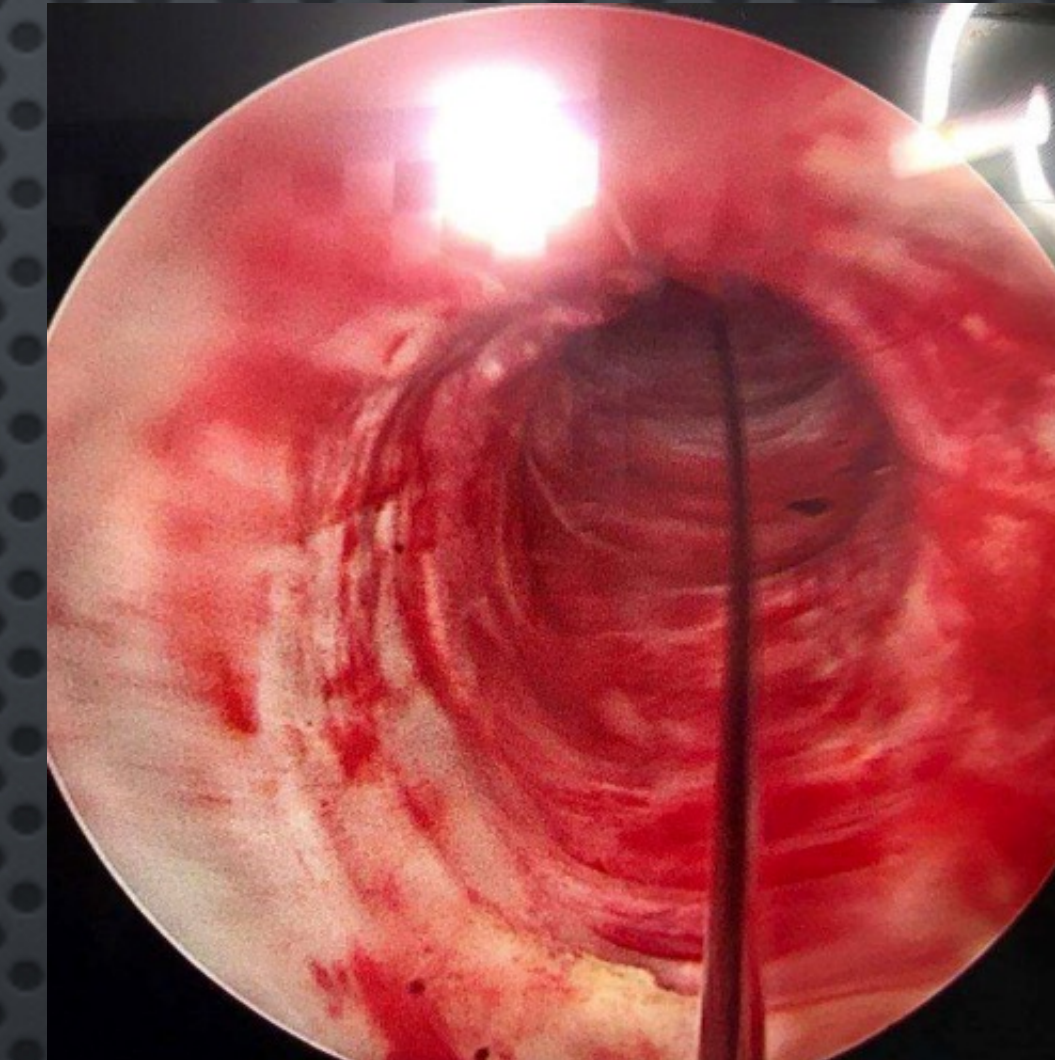


Figure 1: Total Laryngectomy Requiring Pharyngoplasty

	Sex	Ethnicity	Age at Diagnosis	Cancer site	P16 Expression	Cancer Staging	Adjuvant Treatment	PEG Use	Esophageal Findings	Treatment	Type of Flap	FOIS
1	F	White; Caucasian	52	Larynx	-	T4aN2cM0	Concurrent Chemo and Radiation	Yes	Upper esophageal stricture; fistula	Dilation (2)	Radial Forearm Free Flap	Unknown due to Transfer
2	F	White; Caucasian	51	Larynx	-	T1aN0M0	Chemoradiation Completed Prior to Laryngectomy	Yes	Granulation tissue, fistula	Dilation (4)	Radial Forearm Free Flap	4
3	M	White; Caucasian	52	Larynx, epiglottis	+	T4aN2cM0	Adjuvant radiation therapy	Yes	Salivary fistula	Unspecified	Pectoralis Major Rotation Flap	3
4	F	White; Caucasian	58	Hypopharynx	-	T2N0M0	Adjuvant radiation therapy	Yes	Upper esophageal stricture	Dilation (13)	Radial Forearm Free Flap	6
5	M	Unspecified	60	Larynx	Unspecified	T4N0M0	Radiation and chemo	Yes	No fistula or granulation tissue noted	Dilation (7)	Radial Forearm Free Flap	2
6	M	White; Caucasian	66	Chondronecrosis*	Unspecified	T3N0M0	Chemo and radiation	Yes	No fistula or granulation tissue noted	Dilation (3)	Radial Forearm Free Flap	5
7	F	Unspecified	66	Larynx	Unspecified**	T1N0M0	Radiation	Yes	Fibrosis, inflammation, and granulation tissue	Dilation (1)	Radial Forearm Free Flap	6
8	F	Unspecified; Not Hispanic or Latinx	55	Larynx	+	T2N0M0	Chemoradiation	Yes	No fistula or granulation tissue noted	Dilation (3)	Radial Forearm Free Flap	5

*Patient 6 had mucosal melanoma of the larynx T3N0M0 followed by chemo and radiation, followed by TL for chondronecrosis.

**Patient 7 cancer was diagnosed at a different institution; therefore, p16 expression is unclear.

Results

- 5 out of 7 patients achieved FOIS level above 3 indicating a return to an oral diet (in some cases liquid only)
- 2 of 7 remained below criteria for a feeding tube
- 1 was excluded due to lack of functional oral intake data due to transferring care away from the facility
- All 8 patients required PEG dependence due to dysphagia prior to secondary pharyngoplasty
- Of the patients for whom the data was available, a mean of 4.71 dilations were performed prior to pharyngoplasty
- Following pharyngoplasty, 3 patients required 1 dilation each, while 1 patient required an additional 8 dilations

Discussion

- Swallowing and functionality are major influences in the overall well-being of head and neck cancer patients
- Following total laryngectomy, there are frequently complications – particularly stenosis. These outcomes can be worsened by radiation that often accompanies this treatment
- This case series shows that of the patients included in this cohort, a majority improved in the FOIS score following pharyngoplasty
- While one patient did go on to require 8 dilations following pharyngoplasty, only 3 of the remaining patients required dilation after pharyngoplasty, and those who did each underwent only 1 dilation
- Pharyngoplasty offers an alternative to repeated dilation procedures and can provide an improvement in overall swallowing outcomes, as well as reducing the burden of frequent procedures