TEP BOARD:
A MULTIDISCIPLINARY APPROACH TO SELECTING OPTIMAL CANDIDATES FOR TRACHEOESOPHAGEAL PUNCTURE

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ABSTRACT:

Tracheoesophageal (TE) puncture with placement of a voice prosthesis may be considered the gold standard for alaryngeal communication. TE puncture is not without complication (Figures 1,2) and may lead to adverse events and poor outcomes if inappropriate patients are selected for TE puncture. Thus, our institution implemented a multidisciplinary bimonthly "TEP Board" aimed at identifying suitable candidates for secondary TE puncture in order to minimize post-puncture complications and promote optimal outcomes. The conceptualization and implementation of TEP board will be discussed.

Key Words: Tracheoesophageal voice prosthesis, tracheoesophageal puncture, TEP speech, alaryngeal communication, multidisciplinary conference.

IMPLEMENTATION:

Similar to a traditional tumor board, TEP board is comprised of a multidisciplinary team of experts in head and neck including head and neck surgeons, speech-language pathologists (SLPs), social workers, and advanced practice providers with the goal of providing recommendations for intervention. Our team meets on a bi-monthly basis in a hybrid virtual (via Zoom)/in-person format for approximately 30 minutes to discuss individual total laryngectomy patients who have expressed interest in obtaining a TEP for communication.

Prior to TEP board presentation, each patient undergoes a thorough workup by their SLP and medical team so that all information presented is accurate and current. Per our protocol, 11 patient characteristics as determined by TEP workup and chart review, are recorded and presented. (Figure 3) The Board reaches consensus-based recommendations for puncture after discussion of the relative importance of each patient characteristic.

OUTCOMES:

Over a one-year span (November 2019 to November 2020), 20 patients were presented to our TEP Board. Of these, 11 patients were recommended for TE puncture after initial presentation, 5 were recommended for further workup and re-presentation, and 4 were not cleared for TE puncture and alternative methods of alaryngeal communication were pursued. 12 patients were ultimately punctured during this time interval. (Figure 4) The post-TEP outcomes were compared to the 24 patients punctured in the year prior to TEP Board implementation. (Figure 5)

CONCLUSION:

Although no outcome improvement was noted at this early stage, we anticipate implementation of TEP Board will ultimately improve patient outcomes by better identifying ideal candidates. Early in its development, TEP Board facilitates collaborative discussion amongst stakeholders regarding patient candidacy for TE puncture. Universally, all participants of TEP Board report greater satisfaction and confidence in the selection of TEP candidates. We have found a multidisciplinary TEP Board conference to be a feasible and accessible option for selecting optimal candidates for TE puncture. We intend to further investigate the impact of TEP Board on identifying key selection criteria, establishing guidelines, and improving patient outcomes.

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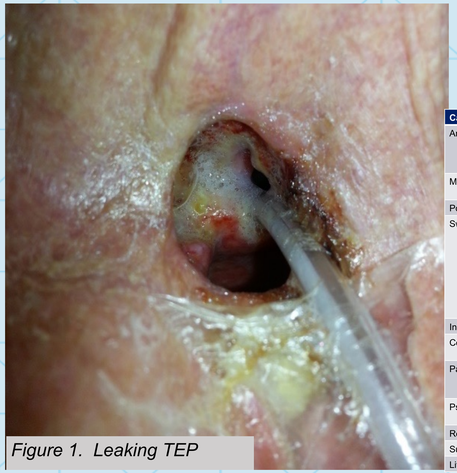

Figure 1. Leaking TEP

Figure 3. Flow Sheet for TEP Board Presentation

Candidacy		Prognostic Indicator (+/-)
Anatomy	Primary closure Complete esophageal stricture requiring dilation x2 (4/4/19, 4/23/19) Adequate stoma size and seal with insufflation	- + +
Medical Comorbidities	TSH 6.76 – only slightly elevated, prescription for Levothyroxine initiated	-/+
Post-op Complications	None	
Swallow Function	Decreased driving pressure due to diminished BOT retraction leading to slowed propulsion of bolus through neopharynx Smooth prominence between C2-C5 with momentary stasis of the bolus above and below the prominence Residue noted at PE-segment through upper esophagus; cleared with multiple swallows and liquid wash Swallow largely stable compared to prior evaluation (MBS 2/13/20)	-
Insufflation Testing	Passed; sustained voicing without difficulty	+
Compliance	No missed visits Nursing assistance to provide self-care	+ -
Patient Factors	Cognitively intact, Self-motivated Adequate manual dexterity Adequate vision	+ + +
Psychosocial factors	Lives alone in Atlanta, GA Has insurance (Humana Medicare)	+ +
Respiratory Status	No known pulmonary issues	+
Substance abuse/smoking history	1 PPD smoker; quit prior to laryngectomy	+
Literacy	Literate	+

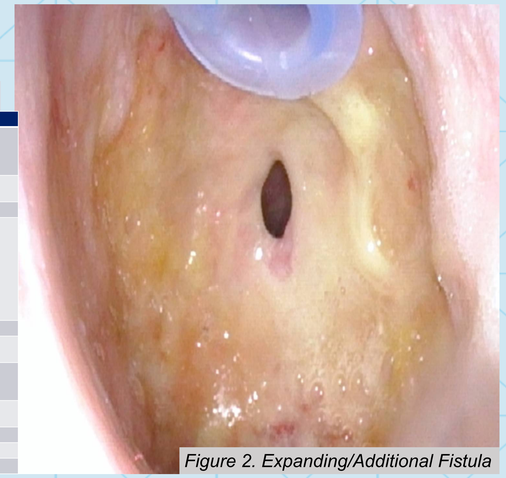

Figure 2. Expanding/Additional Fistula

Figure 4. TEP Board Recommendations

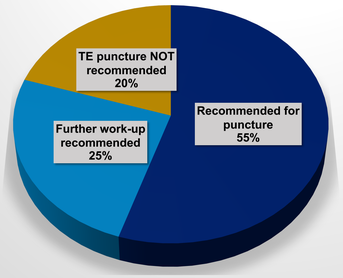

Figure 5. Complications Before & After Implementation of TEP Board