

Effects of Prophylactic Percutaneous Endoscopic Gastrostomy Placement on 12-month Swallow Function: A Retrospective Study

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Introduction

Head and neck cancer (HNC) patients often have impaired nutritional status during treatment.¹ A percutaneous endoscopic gastrostomy (PEG) tube can be placed either prophylactically (pPEG) or reactively (rPEG) for nutritional support.²

While some studies suggest that patients who receive pPEG (vs. rPEG) have higher rates of tube use postoperatively², the potential advantages of pPEG include decreased length of hospital stay and lower rates of malnutrition and postoperative pneumonia.^{2,3}

The **objective of this study** is to characterize **swallowing outcomes** of HNC patients who underwent pPEG placement at the time of HNC resection and reconstruction

Methods and Materials

• Single center, retrospective cohort study with a total of 57 patients

Outcomes of Interest

- Eating Assessment Tool (EAT-10)⁴: Scale 1-40, 40 = greatest dysfunction
- Functional Oral Intake Scale (FOIS)⁵: Scale 1-7, 1 = greatest dysfunction
- Change in body mass index (BMI)
- Duration of PEG tube and hospital stay
- 12-month post-op diet

Data Analysis:

- Pre- and postoperative scores compared via paired, two-tailed t-test
- Categorical data analyzed with percentages and continuous data with mean and SD

Results

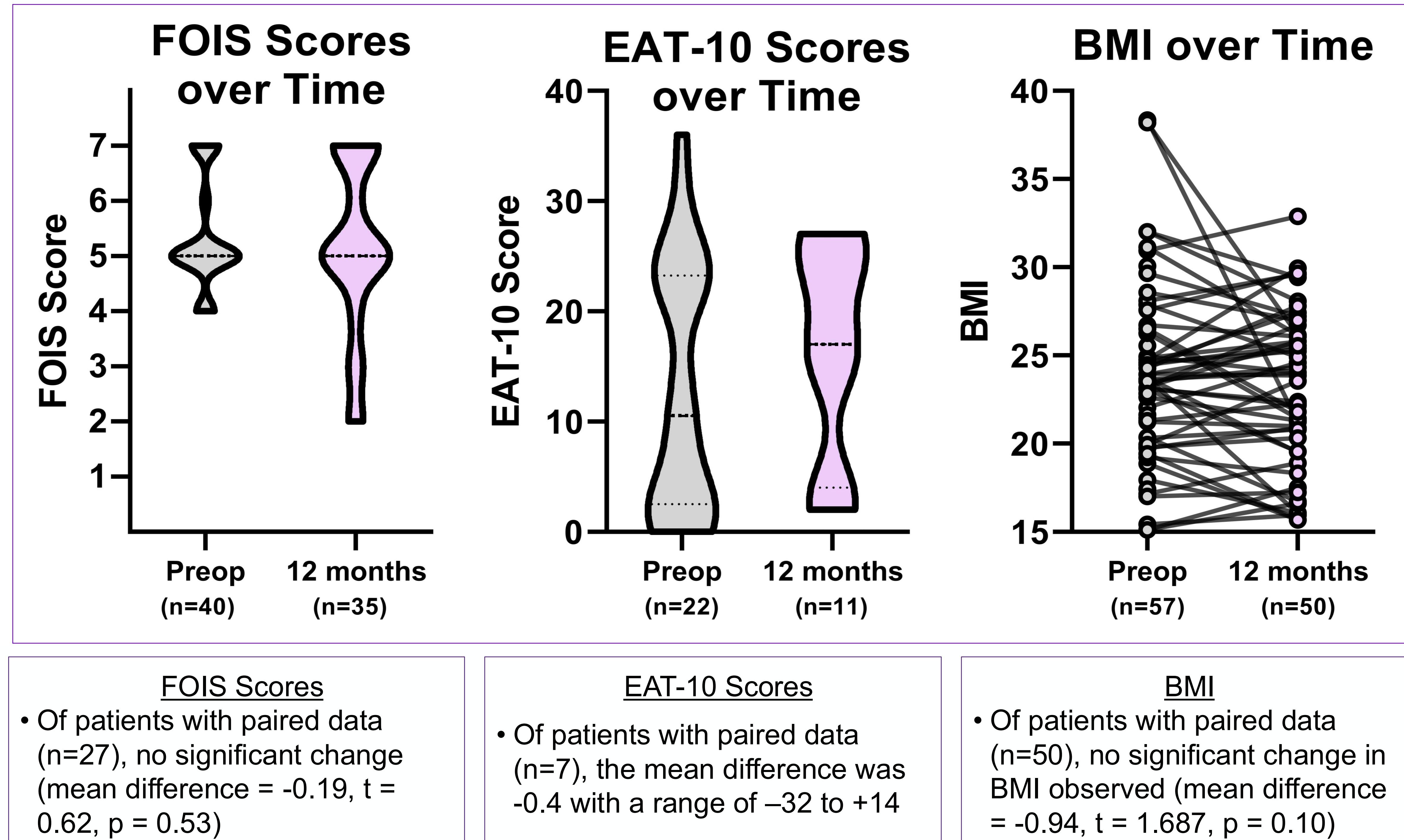
Table 1. Demographics of Study Cohort

Characteristic	N=57
Male, n (%)	38 (66.7%)
Age (years), Mean ± SD	67.3 ± 14.3
Adjuvant Chemoradiation, n (%)	42 (73.7%)
Prior History of Radiation, n (%)	27 (47.4%)
Preoperative Functional Status	
Independent, n (%)	46 (85.2%)
Preop FOIS Score, Mean ± SD	5.1 ± 1.6
Preop EAT-10 Score, Mean ± SD	16.6 ± 10.0

Table 2. Postoperative and PEG Outcomes

Outcome	N=57
Postop Pneumonia, n (%)	16 (43.2%)
Hospital Readmission, n (%)	6 (11.8%)
Length of Stay (days), Mean ± SD	9.1 ± 4.6
PEG-related Complication, n (%)	11 (21.1%)
Displacement, n	5
Leaking, n	3
Skin Irritation, n	2
Gastric Ulcer, n	1
PEG Duration (days), Mean ± SD	208.7±199.4
Without PEG at 12 months, n (%)	34 (66.7%)
12-month Total Oral Diet, n (%)	32 (73.7%)

Figures 1-3. Swallowing and Weight Outcomes Pre- and Postoperatively (12 months)



Discussion

- The majority of patients in this cohort returned to baseline weight and swallowing function and were eating a full oral diet by 12 months after pPEG placement
 - Some patients who retained PEG at 12 months despite not using it for nutrition, for reasons including taking medication, a feeling of security, or anticipation of additional surgery

Comparing Outcomes of pPEG to Literature on rPEG

- PEG use in this group lasted a mean of 208.7 days (median = 164.5 days), with few outliers
 - Notably longer than mean duration of rPEG, ranging from 122-159 days in the literature^{6,7}
- A recent study found the mean length of stay (LOS) in this population to be 17.1 days after rPEG vs. 12.6 days after pPEG³, with our study finding a comparable mean length of stay after pPEG of 9.1 days
 - LOS likely decreased due to pPEG establishing earlier and more reliable nutritional support

Conclusions

Despite concerns that pPEG may impair long-term swallowing function or lead to long-term dependence on PEG tubes

- The majority of patients in this study returned to full oral diet at 1 year
- Patients exhibited a return to baseline function in an objective measure of swallowing (i.e. FOIS) by 12 months postoperatively

This study serves as evidence to guide future clinical protocols and enhance quality of life for HNC patients

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