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Retrospective Analysis of Patients with Mucosal Head and Neck Squamous Cell Carcinoma Treated with Adjuvant/Definitive Radiotherapy and Factors Contributing to Feeding Tube Placement: A Single Institutional Review

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Abstract
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Phoebus Sun Cao [1], Brian Goodrich [1], Tarun Podder [1], Kathryn Krawczyk [2], Weidong Li [1], Kathryn Spinek [1], Karna T. Sura [3], Seung S. Hahn [1], Hsin K. Li [4]

1. Radiation Oncology, State University of New York Upstate Medical University, Syracuse, USA 2. Nutrition Services, State University of New York Upstate Medical University, Syracuse, USA 3. Radiation Oncology, Upstate Medical University, Syracuse, USA 4. Department of Radiation Oncology, State University of New York Upstate Medical University, Syracuse, USA

Corresponding author: Phoebus Sun Cao, suncaop@upstate.edu

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Abstract

Purpose

Radiotherapy (RT) ± chemotherapy is an integral part in the management of patients with mucosal head and neck squamous cell carcinoma (mHNSCC) in both the definitive and adjuvant setting. While undergoing RT, patients will experience symptoms which negatively impact their oral intake resulting in diminished weight and overall nutritional status. Percutaneous endoscopic gastronomy (PEG) tubes are placed to help with nutrition when symptoms dictate. However, PEG tubes have their own associated risks with concerns on the late effects on swallowing. We sought to identify the specific factors at our institution that result in placement of PEG tubes.

Methodology

Retrospective review of patients treated at a single institution, with either adjuvant or definitive radiotherapy, for primary mucosal head and neck cancers from January 1st through December 31st, 2022. Patient-specific, cancer-specific, dosimetric, and PEG tube information was summarized and compared. Subsequently, univariate (UA) and multivariate analyses (MA) were performed to identify factors related to the placement of PEG tubes while undergoing RT.

Results

A total of 90 patients were treated with either adjuvant or definitive intent for mHNSCC. Patients either did not undergo PEG tube (nPT) (n=32), underwent reactive PEG tube(rPT) (n=30), and underwent prophylactic PEG tube (pPT) (n=28) placement. The overall PEG tube rate was 64.4% (58/90). Of the patients that received PEG tubes, 51.7% (30/58) were reactive. Of patients not planned to have a PEG tube (nPT+rPT), 48.4% (30/62) underwent rPT placement. For MA of nPT patients against rPT the oropharynx Dmean (p=0.001), oral cavity Dmean (p=0.029), and pharyngeal constrictor Dmean (p=0.016) were found to be significant in addition to overall neck involvement (p=0.002), level two nodes (p=0.008), treated bilateral neck (p=0.007), and weight loss at last OTV (p=0.006).

Conclusions

We identified several factors that correlate with PEG tube placement which included mean dose to oral cavity, pharyngeal constrictor, and oral cavity in addition to overall neck involvement, treated bilateral neck, level two nodes, and weight loss. Further prospective studies will be needed to validate these factors to develop tools that better predict for patients that require PEG tube placement and continued optimization. We are working on a prospective multi-disciplinary approach to better identify patients at risk as well as put strategies in place to decrease the utilization of PEG tubes at our institution.