Factors influencing healthcare utilization following major head and neck oncologic surgery in the elderly

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Introduction

Often, patients that present with head and neck squamous cell carcinoma (HNSCC) are in the seventh decade of life with various comorbidities. The incidence of newly diagnosed HNSCC in the elderly is expected to increase by more than 60% by the year 2030. Optimizing postoperative care is vital for patients as they recover from major head and neck surgery to avoid complications, minimize hospital readmissions, and decrease healthcare expenditure. The aim of this study is to identify patient factors associated with increased postoperative healthcare use in the first year after surgery.

Averages of Healthcare Utilization

	Mean/ Standard Deviation
Length of stay	8.61 +/- 7.92
Otolaryngology clinic visits	6.0 +/- 3.7
Telephone encounters	2.4 +/- 2.2

Methods

Patients 60 years or older with HNSCC of the aerodigestive system who underwent ablative head and neck surgery with at least a neck dissection with or without a free flap reconstruction between 2009-2019 at a single tertiary care center were retrospectively analyzed. Data collected included patient demographics, preoperative comorbidity scores, social variables, and perioperative risk factors. Fisher's exact or Chi-square tests were used to identify risk factors which increased healthcare utilization.

Demographic	Prevalence (%)
Sex	
Female	31.3
Male	68.7
Smoking status	
non smoker	26.3
current smoker	17.2
former smoker	56.4
Alcohol status	
never	52.4
current	9.5
former	38.1
At least 1 ED visit	21.8
Readmitted	40.6
Surgery Type	
Laryngectomy	33.8
Free flap	32.3
Neither	33.9

Predictors of Increased Healthcare Utilization	P values
Gastric tube with ED visits	0.028
Gastric tube with readmissions	0.004
Gastric tube with phone encounters	0.006
Living within 12.5-50 miles of institution	0.043
Living withing 12.4 miles of institution	0.047

Results

Of 135 patients, the mean age was 70.6 +/− 7.2 years (range, 60-89), mean LOS was 8.61+/−7.92 (range, 1-56). There was a mean of 6.0+/− 3.7 otolaryngology clinic visits and 2.4 +/−2.2 telephone encounters. The presence of a gastric tube at discharge was associated with an increased number of ED visits (p=0.028), readmissions (p=0.004), and phone encounters (p=0.006). Patients who lived 12.5 to 49.9 miles from our institution had higher ED visits (p=0.043), while patients that lived <12.5 miles had more clinic appointment visits (p=0.047). Age, living situation, marital status, type of surgery, comorbidity indexes, presence of tracheostomy at discharge, skilled nursing facility placement, and postoperative adjuvant therapy were not significant in any healthcare utilization outcome.

Conclusions

Postoperative healthcare utilization for elderly patients that undergo major head and neck cancer surgery for HNSCC is not uncommon. Gastric tube presence at the time of discharge and distance living from hospital of initial surgery were significantly associated with healthcare utilization in the elderly patient population. Age and the type of surgery rendered were not significant factors. Healthcare teams should identify patients at risk for increased postoperative morbidity to lessen the burden on patients and their families.

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