

Abstract

This study aimed to better understand the characteristics of patients with a diagnosis of oral cavity squamous cell carcinoma (OCSCC) who receive palliative therapy. 734 patients with OCSCC were analyzed in this retrospective cohort study from data provided from the National Cancer Database (NCDB). 367 patients (50%) received palliative care and 367 received nonpalliative therapies. Logistic regression was used to determine odds of receiving palliative care after primary surgical management.

There appears to be greater odds of initiating palliative treatment modalities for patients with OCSCC diagnosed at a community cancer program. Social and demographic factors were not associated with odds of implementing palliative care, with the exception of lower odds in those in the highest income quartile.

Introduction

OCSCC represents approximately 14% of head and neck cancer diagnoses. Head and neck cancer patients experience significant morbidity and mortality, often presenting at a late stage or with unresectable disease. However, most of the literature discusses management and outcomes of curable disease. The goal of palliative intervention is to improve quality of life in patients whose disease is incurable or unresectable.

While palliative surgery, chemotherapy and radiation therapy have been shown to improve quality of life in patients with OCSCC, studies have demonstrated numerous barriers to implementing these treatments. This study aimed to identify demographic, social and institutional characteristics that may impact the implementation of palliative care.

Based on prior reports which demonstrated significant differences in the provision of palliative therapy based on ethnicity, sex, insurance status, and treatment location, we anticipated similar findings. This study's use of the NCDB offers a large volume of information drawn from multiple institutions that can help characterize the state of palliative therapy and identify potential barriers to utilization in patients with OCSCC.

Methods

National Cancer Database

The NCDB is a national database of oncologic outcomes, with data reported from greater than 1,500 cancer programs accredited by the Commission on Cancer of the American College of Surgeons and the American Cancer Society. Data is collected at the institutional level and include patient demographics, cancer staging, tumor histological characteristics, treatment characteristics (including surgery, radiation, and chemotherapy) and patient outcomes. This data is submitted to NCDB using nationally standardized coding and standards.¹ The NCDB was utilized to obtain our cohort of patients.

Statistical Analysis

734 patients with OCSCC evaluated/treated that met criteria for palliation from 2010-2015 at NCDB facilities were included. 367 patients (50%) received palliative care and 367 received no therapy. The groups were matched based on age, TNM staging and Charlson Comorbidity Index (CCI). Logistic regression was used to determine odds of receiving palliative care after primary surgical management. Analysis was performed in Stata (StataCorp, LLC, College Station, Texas), and statistical significance was considered at p values < 0.05.

Results

Patients were 64 ± 13 years old on average, (35%) female. 283 (39%) of patients were privately insured, 295 (40%) had Medicare, and 156 (21%) had another insurance type or were uninsured.

The majority of patients (64%) were treated at an academic medical center. Of the patients who received palliative care, 113 (31%) received surgery, 82 (22%) had pain management only, 56 (15%) had systemic therapy, 55 (15%) had radiation therapy and the remaining patients had a combination of treatments.

Patients at a community cancer program had 2.8 times greater odds of receiving palliative care (95% CI: 1.16, 6.92, p=0.02), while academic, comprehensive community programs, and integrated network cancer programs did not have significantly different odds of receiving palliative care.

Patients in the highest income quartile (\$63,000+) had significantly lower odds of receiving palliative care (OR: 0.59, 95% CI: 0.38, 0.91, p=0.02).

Race/ethnicity was not significantly associated with receiving palliative therapy. In addition, insurance did not seem correlated with receiving palliative therapy.

Discussion

1. OCSCC is a disease characterized by significant morbidity and mortality. Mean survival for untreated stage IV disease is 4-5 months.² More generally, among those who are diagnosed with head and neck cancer, 40% present with advanced disease.³ Of these, a large proportion of patients will experience recurrence.⁴ The resulting symptomatic sequelae and functional impairments pose a significant challenge to patient and clinician.

2. As many as 13-20% patients diagnosed with advanced OCSCC would qualify for palliative treatment for their disease.^{2,5} Palliative interventions can provide symptom control and theoretically reduce admissions, hospital stay, and emergency procedures at the end of life.⁴ However, decisions on palliative surgical intervention are largely based on consensus views.³

3. Not all patients with OCSCC receive care when indicated. Demographic factors can affect the type of care patients receive. Cheraghlou et al. found that patients of lower SES who had treatable OCSCC were more likely to go untreated. The same was true for patients treated at both academic centers and lower volume centers.⁶ In survival analysis of oral and oropharyngeal cancer, the literature has shown worse overall and disease-specific survival outcomes among black males compared to other races and sex.⁷ A systematic review of the barriers to receiving palliative care among older patients with cancer of various organs revealed the following. Patients less likely to receive palliative care were fee-for-service enrollees, of low SES, racial minorities, male, or living in rural areas.⁸

4. In some ways, the results of our study diverged from the literature. Given the data showing the barriers patients of lower SES face in receiving care, we expected that patients in the lowest income quartile would have the lowest utilization. However, the opposite was true. Ethnicity and insurance status did not seem to correlate with odds of receiving palliative interventions.

5. Future research may further investigate attitudes toward palliative care held by physicians and patients at community cancer programs and seek to discover whether these institutions are more successful at breaking down barriers to accessing these services. In addition to the limitations inherent in this retrospective cohort study, we did not have access to data revealing the reasons why patients either refused or were not offered palliative intervention. However, the large sample of patients across many institutions allows for the expansion of knowledge about a historically underrepresented topic in the treatment of oral cavity cancer.

Common Surgical Palliative Interventions³

Airway maintenance (tracheostomy, stents)	Palliative embolization
Nutritional support (PEG, e.g.)	Fistula closure
Tumor debulking/ablation	Pain control (nerve ablation)

Conclusions

1. Patients with OCSCC diagnosed at a community hospital have greater odds of receiving palliative intervention. This finding might be explained by closer proximity of community cancer programs to patients' homes.
2. Social and demographic factors were not associated with odds of implementing palliative care, with the exception of lower odds in patients in the highest income quartile.

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