Original Article

Emergency Department Visits by Head-and-Neck Cancer Patients

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Abstract

Aim: This study was conducted to assess the disease status of head-and-neck cancer patients visiting the emergency department (ED) and their reason for presentation. We wanted to analyze if these visits could be avoided by incorporating any changes in our clinical practice. **Methods:** This was a retrospective analysis of head-and-neck cancer patients attending the ED at a tertiary care cancer center in 2017. Clinical details were noted from the electronic medical records, and descriptive statistics was calculated. The analysis was performed using SPSS version 21 software. **Results:** Three hundred and thirty-nine head-and-neck cancer patients attended the ED. Of these, 80.2% were males and 48.1% of patients had oral cavity cancers. About 37.2% required palliative care treatment. Nearly, 47.2% of patients presented during their initial evaluation period. About 22.7% required hospital admission and only 14.7% required any sort of emergency intervention. **Conclusion:** Majority of visits to ED could have been avoided with better counseling of the patients and their attendants.

Keywords: Emergency visits, head-and-neck cancers, oral cancers, palliative care

Summary

This study aimed at assessing the characteristics of patients with head and neck cancer who reported to the emergency department. These tumors are amongst the commonest cancers in the world.

These cancers as well as their treatment modalities are often physically debilitating and functionally incapacitating. Providing care to these patients proves to be a challenging task for the attendants as well.

Thorough counselling of the patients and their attendants about their disease condition, available treatment modalities, expected complications, their management and the overall prognosis will help them in coping better with their situation and will reduce majority of avoidable visits to the ED.

Introduction

Head-and-neck cancers (HNCs) are among the most common cancers in the world.[1] As these cancers involve the upper aerodigestive tract, these malignancies themselves, as well as their treatment, are often physically as well as functionally debilitating. These patients may have added comorbidities, which may further complicate the multimodality treatment required by these patients debilitating. These problems usually force the patient to present to the emergency department (ED). We conducted a study to assess the disease status of HNC patients visiting the ED and their reason for presentation. We wanted to analyze if these visits could be avoided by incorporating any changes in our clinical practice.

Methods

This was a retrospective analysis of all patients registered under the head-and-neck disease management group who attended the ED from January 1, 2017 to December 31, 2017 at a tertiary care cancer center. We excluded all patients who were <15 years of age and those who had incomplete entry in the emergency service records. Clinical details were obtained from the electronic medical records and from the registers maintained for clinical case entry at the ED.

Access this article online

Quick Response Code:

Website: www.jpalliativecare.com

DOI: 10.4103/IJPC.IJPC_57_19

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How to cite this article: Malik A, Sukumar V, Pai A, Mishra A, Nair S, Chaukar D, *et al*. Emergency department visits by head-and-neck cancer patients. Indian J Palliat Care 2019;25:535-8.

Descriptive statistics was presented as the numbers of cases and percentages. All statistical calculations were performed using SPSS 21.0 (IBM Corporation, Armonk, NY, USA). As this was a retrospective audit, waiver from the review was obtained from the Institutional Review Board.

Results

From January 1, 2017 to December 31, 2017, 355 patients undergoing treatment with head and neck services attended the ED. Of these, 339 patients were found to be eligible for analysis, as the remaining had incomplete clinical records.

A maximum number of patients (46) attended the ED in January. Least number of patients (11) presented in the month of August. About 80.2% of patients were male, with women accounting for the rest 19.8%. The mean age was 52 years. Maximum number of patients belonged to the age group of 51–60 years (96 patients, 28.3%) [Table 1].

The most common subsite in the study population was oral cavity accounting for 48.1% of the patients. This is similar to the incidence that we see in our outpatient department and is because of the ramant use of smokeless tobacco in the population. Patients with laryngeal carcinomas accounted for 16.5% of the cohort followed by oropharyngeal and hypopharyngeal lesions accounting for 9.4% each. Majority of laryngeal tumors were glottic tumors. Among the oral cavity cancers, the tongue (20.1%) was the most common site followed by the buccal mucosa (18.3%) and lower alveolus.

About 37.2% of patients were planned for palliative treatment which included either palliative chemotherapy or radiotherapy or best supportive care. The remaining patients underwent definitive treatment in the form of surgery, radiotherapy or chemoradiotherapy, or a combination of these therapies.

About 47.2% of patients presented to the ED during their initial workup period before the start of any treatment (surgery or radiotherapy and/or chemotherapy). Only 8% of patients presenting to the casualty were under active treatment for headandneck cancers 14.1% of patients presented within 6 weeks of completing the treatment and 30.7% of patients presented >6 weeks after the completion of treatment.

Seventy-seven (22.7%) patients presenting to the ED required hospital admission. The most common presenting complaints were nonspecific fatigue and generalized weakness (24.8%). These were followed by bleeding (23.6%), pain (15%) and breathing difficulty (not stridor) (9.7%). Nearly 8.3% of patients presented with stridor; 5.3% of patients had breathlessness due to blocked tracheostomy tube; and 4.7% of patients presented with accidental removal of Naso-gastic tube/tracheostomy tube.

Fifty patients (14.7%) required some form of emergency intervention in the form of surgical exploration, tracheostomy, angioembolization, cardiopulmonary resuscitation, or blood transfusions. Tracheostomies accounted for 28 of the 50 emergency interventions. Of 80 patients who presented with bleeding, majority (71 patients, 88.7%) could be managed conservatively. Six patients required angioembolization and three underwent emergency vessel ligation. Three (0.9%) patients required wound re-exploration for flap-related issues/orocutaneous fistula. 1.8% of patients presenting to the ED died.

Table 1: Demographic-, clinical-, and treatment-related characteristics of the head-and-neck cancer patients presenting to the emergency department

Characteristics	Number of patients ($n=339$), n (%)
Gender	
Male	272 (80.2)
Female	67 (19.8)
Median age (years)	53
Site	
Oral cavity	163 (48.1)
Tongue	68 (20.1)
Buccal mucosa	62 (18.3)
Lower alveolus	21 (6.2)
Others (floor of mouth, retromolar trigone, upper alveolus, and hard palate)	12 (3.6)
Larynx	56 (16.5)
Supraglottis	21 (6.2)
Glottis	35 (10.3)
Oropharynx	32 (9.4)
Hypopharynx	32 (9.4)
Thyroid	20 (5.9)
Others (salivary gland, nasopharynx, and paranasal sinus.)	199 (58.8)
Stage of treatment	
Pretreatment	160 (47.2)
During treatment	27 (8)
<6 weeks' posttreatment	48 (14.1)
>6 weeks' posttreatment	104 (30.7)
Reason for visit	
Fatigue/weakness – nonspecific	84 (24.8)
Bleeding	80 (23.6)
Pain	51 (15)
Breathlessness	33 (9.7)
Stridor	28 (8.3)
Blocked tracheostomy tube	18 (5.3)
Accidental removal of Naso-gastic tube/tracheostomy tube	16 (4.7)
Cardiopulmonary arrest	10 (2.9)
Fever	10 (2.9)
Wound care	8 (2.4)
Hypocalcemia	1 (0.3)
Emergency intervention	
Tracheostomy	28 (8.3)
Cardiopulmonary resuscitation	9 (2.7)
Angioembolization	6 (1.8)
Surgical vessel ligation	3 (0.9)
Wound exploration	3 (0.9)
Blood transfusion	1 (0.3)

Discussion

The study evaluated the characteristics of patients with HNCs attending emergency services over 1 year. The aim of this study was to understand which patients presented to the ED more often and their reason for presentation to the ED. The demographics of the study population were in concordance with patterns observed in South East Asia with male predominance, the most common age of presentation between 50 and 60 years.[1,2] Studies have found that the mean age of patients at the presentation of HNCs is the fifth and early sixth decades in Asian populations whereas in the North American population it is in the seventh and eighth decade.[3] About half of the patients had oral cavity carcinoma. This was in contrast to north American studies where larynx was the commonest site.[4,5] Another study from Taiwan has shown oral cavity to be the most common site in their subgroup.[2] With changing epidemiology, a study from the United Kingdom has noted that the oropharynx is the most common site among the patients presenting to ED.[6]

Majority of the patients in our cohort presented to ED while they were being investigated. The next common group was of those patients who had completed the treatment >6 weeks ago. This could be because the patients being treated or those who have recently finished treatment were in frequent communication with their treating doctor and proper counseling was done to ensure their queries and doubts were appropriately cleared.

About one-fourth of our patients presented with generalized weakness and fatigue. This was followed by bleeding, pain, and breathlessness. In contrast to the results of this study, dysphagia was the most common reason for reporting to the ED in the UK, whereas respiratory infections was the most common cause in North America.[4,6] This variation could be because of oropharyngeal and laryngeal cancer being the most common in those cohorts. A study from Taiwan too showed ill-defined complaints being the most common presentation of HNC patients coming to ED.[2]

The visits to ED have been found to be associated with the presence of comorbidities, advanced stage of the disease, and chemoradiation.[5,7] Another study found chemotherapy to be associated with unplanned admissions.[8] This could be because of decreased blood counts and higher risks for infections.

More than one-third of our patients (37.2%) were treated with palliative intent. It is important to understand that these patients should have a timely consultation with a palliative care specialist. In view of advanced disease, these patients have many complaints and queries related to pain, swallowing and prognosis. These patients and their attendants if counseled properly may be saved from anxiety and unrequired trips to ED. It is challenging and tough to take care of such patients and hence their attendants should be suitably counseled and encouraged.

About 14.7% (50 patients) required some form of emergency intervention. Tracheostomy was the most common intervention performed. Nearly 22.7% of patients in this study required hospital admission. In a study on head-and-neck cancer patients presenting to ED within 30 days of surgical intervention, 65% required readmission.[9]

Many of those who presented with blocked tracheostomy tube or had an accidental tube decannulation could have avoided the complication if they would have been properly explained and taught about the domiciliary care of the tracheostomy tube and the Naso-gastic tube. Even among those who presented with bleeding, 88.7% could be managed conservatively by compression and pressure dressings. For majority of the patients who presented to ED, the visit could probably have been avoided by proper counseling. Having a health-care worker/nurse-based helpline to sort out these issues may reduce the pressure on ED. Patient navigators may also be able to help out in this direction. This would allow judicious utilization of services in a low-resource setup.

Our study has the demerit of being retrospective in nature due to which we did not have proper information about the comorbidities and staging of these patients. In spite of this, the study has a robust sample size from a single tertiary care cancer center with all patients undergoing similar management protocols. This is unlike other studies where data from several academic and nonacademic institutes with different levels of care have been collated together.[2,4,5] Other studies have primarily concentrated on complications related to chemoradiation, whereas our study included surgery-related complications as well.

Conclusion

Males in the fifth decade of life with oral cancer were the most frequent visitors to the ED. Ill-defined weakness and bleeding were the most common causes of presentation. Less than a fourth of the patients required hospital admission, and only about half of them required any emergency intervention. Most of the patients presenting to ED were treated with palliative intent. Majority of visits to ED could have been avoided with better counseling of the patients and their attendants.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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