



Demographic Profile and Treatment Response Evaluation of Head and Neck Cancer Patients in a Tertiary Care Hospital of Punjab, India

Jivtesh Kanwar Singh , Rajeev Gupta, Harkirat*

Abstract

Background: Head and neck cancers (HNC) are the malignant tumours of oral cavity, nasopharynx, oropharynx, hypopharynx, larynx and salivary glands. Incidence of HNC across the geographical area is highly variable and there is also variability in the management of these patients. **Aim and Objectives:** To study the demographic profile, sites involved, histopathological pattern and treatment response evaluation of HNC at SGRD Cancer Hospital, Amritsar. **Material and Methods:** This is a retrospective observational study conducted at Sri Guru Ram Das Cancer Hospital, Amritsar, Punjab. Data was collected retrospectively from the year 2018 to 2019. Only histopathologically confirmed cases of malignancies of head and neck were included in this study. Treatment response evaluation was done at 3 months post treatment using radiological imaging (RECIST1.1) **Results:** A total of 200 cases were included in the study. There were 163 (81.5%) males and 37 (18.5%) female patients. The most common site involved was found to be oral cavity (55%) followed by larynx (10.5%) and hypopharynx (10.5%). Squamous cell carcinoma (SCC) was the most common histopathology in all the HNC. After 3 months, post treatment, 69.50% patients were found to have complete response, 24.5% partial response, 4% progressive and 2% stable disease. **Conclusion:** This study reveals that prevalence and treatment outcome of HNC is almost uniform across India as was observed in other studies. This study also highlights the high prevalence of HNC in Punjab that entails the need for early detection, multimodality treatment approach and compliance of patients for better outcome.

Keywords

Demography, Head and Neck Cancers, Treatment Response Evaluation, RECIST

Introduction

Head and neck cancers (HNC's) are defined as malignant tumors arising from the mucosal surfaces of oral cavity, nasopharynx, oropharynx, hypopharynx, larynx and salivary glands, as per the American Joint Committee.^[1] Incidence of HNC across the geographical area is highly variable and there is also variability in the management of these patients.

According to GLOBOCAN 2020 report, ^[2] worldwide statistics of HNC shows pre dominance of lip and oral cavity (2.0%). Whereas Indian statistics of GLOBOCON 2020 report shows pre dominance of lip and oral cavity with 10.3%.

Among all the risk factors, exposure to tobacco derived carcinogens, excessive alcohol consumption or both are considered most common for the development of HNCs.^[3] Other important risk factors include HPV and ill fitted dentures.^[4,5] Management of HNC's requires a multidisciplinary approach including medical, surgical and radiational oncology.^[6] Treatment response evaluation is done by a variety of approaches, including the widely used response evaluation criteria in solid tumors (RECIST) guidelines (version 1.1).^[7] Contrast enhanced CT and MRI

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are the mainstay of imaging for treatment response evaluation in HNC.

Although HNC's have been widely studied, but data from Punjab is scanty. Hence, the objective was to study the demographic profile and to do treatment response evaluation of patients with head and neck cancer presenting in a tertiary care hospital of Punjab, India.

Material and Methods:

Study Site: Sri Guru Ram Das (SGRD) Cancer Hospital, Amritsar, Punjab Study design: Retrospective observational study

Inclusion Criteria :Age >18 years.;Either Gender. ;Histopathologically confirmed cases of malignancies of head and neck

Exclusion Criteria :Pre-Malignant Lesions. ;Secondary malignancies.

This was a retrospective observational study conducted at SGRD Cancer Hospital, Amritsar, Punjab. Data was collected retrospectively from the year 2018 to 2019. Only histopathologically confirmed cases of malignancies of head and neck were included in the study. Demographic data was collected and treatment response evaluation was done using response evaluation criteria in solid tumors (RECIST) guidelines (version 1.1) regarding complete response (CR), partial response (PR), progressive disease (PD) and stable disease (SD).

RECIST Criteria (1.1)

Complete Response (CR):Disappearance of all target lesions. Any pathological lymph nodes (whether target or non-target) must have reduction in short axis to < 10 mm.

Partial Response (PR):At least a 30% decrease in the sum of diameters of target lesions, taking as reference the baseline sum diameters.

Progressive Disease (PD):At least a 20% increase in the sum of diameters of target lesions, taking as reference the smallest sum on study (this includes the baseline sum if that is the smallest on study).

Stable Disease (SD):Neither sufficient shrinkage to qualify for PR nor sufficient increase to qualify for PD, taking as reference the smallest sum diameters while on study.

Statistical Analysis :Descriptive and analytical statistics were used for summarization and calculation of the data. Continuous data was summarized as mean ± standard deviation (SD). Percentage and proportions were calculated for the categorical data.

Results

A total of 200 cases were included in the study. There were 163 (81.5%) male and 37 (18.5%) female patients as shown in *table no. 1*.

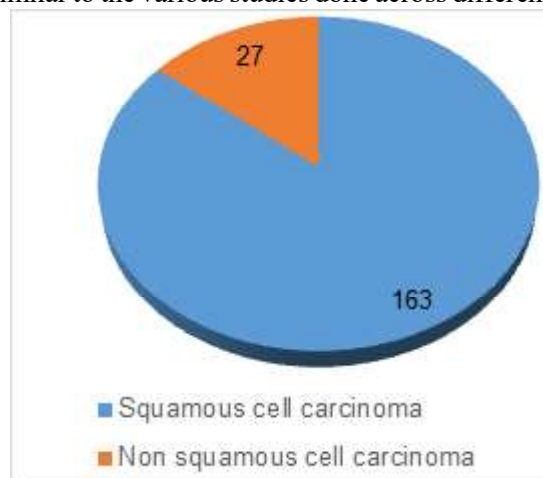
The most common site involved was found to be oral cavity (55%) followed by larynx (10.5%) and hypopharynx (10.5%) as shown in *table no. 2*. Squamous cell carcinoma (SCC) was the most common histopathology in all the HNC's as shown in *graph no. 1*. Majority of the patients had one or more risk factors for HNC. After 3 months, post treatment, 69.50% patients were found to have complete response, 24.5% partial response, 4% had progressive disease and 2% stable disease as shown in *table no 3*.

Discussion

This is a retrospective observational study conducted at the SGRD cancer hospital, Amritsar, Punjab. Amritsar is a city in the northwestern part of India and is the administrative headquarter of Amritsar district in the state of Punjab, India. Patients from the neighboring regions also come to this cancer hospital for treatment. This study consisted of patients from both rural and urban regions. In this study, a total of 200 histopathologically confirmed cases of head and neck cancer were evaluated. Out of 200, there were 163 (81.5%) male and 37 (18.5%) female patients. Male patients outnumbered the female patients. Male: female ratio was found to be 4.4:1. The finding of our study is similar to the previously done studies.^[8-12] The male predominance in the head and neck cancer patients, may be attributed to the higher prevalence of habits like smoking, tobacco chewing and alcohol consumption in males than in females.

Majority of the HNC patients were of the 6th decade (50-59 years of age), which is similar to the findings of previously done studies.^[13-16]

In the current study, it was observed that oral cavity is the most common site for head and neck cancer, which is similar to the various studies done across different parts



Graph 1 : Distribution Of HNC Cases Based On The Histopathology

Table 1 : Demographic Characteristics Of HNC Cases

Age group (years)	No. of cases	Gender			
		Male		Female	
		No.	%age	No.	%age
<30	2	1	0.50	1	0.50
31-40	10	8	4.00	2	1.00
41-50	46	36	18.00	10	5.00
51-60	63	54	27.00	9	4.50
61-70	57	45	22.50	12	6.00
>70	22	19	9.50	3	1.50
Total	200	163	81.5	37	18.5

Table 2 . Distribution Of HNC Cases Based On The Site Of Disease

SITE	No.	%age
Oral cavity	110	55.00
Larynx	21	10.50
Hypopharynx	21	10.50
Oropharynx	15	7.50
Salivary gland	13	6.50
Nasopharynx	12	6.00
PNS	6	3.00
Nostril	1	0.50

Table 3 . Distribution Of HNC Cases Based On The Treatment Response Evaluation

Response	No.	%age
Complete response	139	69.50
Partial response	49	24.50
Progressive disease	8	4.00
Stable disease	4	2.00

of the country.^[17-20] The major reason for the higher prevalence of oral cavity cancers is the addiction to smoking and tobacco chewing.^[21,22] Whereas, in a study conducted in Bihar, it was observed that larynx was the most common site for head and neck cancer.^[23] In our study, SCC (Squamous cell carcinoma) was found to be most common histopathological variant (81.50%). Similar

finding was also observed in the previously done studies across the different parts of the country.^[24-26]

In this study, out of 200 HNC cases, 39 cases (69.5%) had complete response (CR) and 49 cases (24.50%) had partial response (PR), which is similar to a study done in West Bengal.^[27]

**Conclusion:**

This study reveals that prevalence and treatment outcome of HNC is almost uniform across India as was observed in other studies. This study also highlights the high prevalence of HNC in Punjab that entails the need for early detection, multimodality treatment approach and compliance of patients for better outcome.

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Nil.

Conflicts of Interest

There are no conflicts of interest.

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