



PREVALANCE OF HEAD AND NECK CANCER IN UPPER ASSAM: AN INSTITUTIONAL STUDY.

Oncology

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ABSTRACT

In India, head and neck cancers (HNCA) account for 14.3% cancers at all sites. In North-eastern India, there is a high prevalence of HNCA which can be associated with pervasive habit of using tobacco, lime and betel. The alarmingly high prevalence of cancers of head and neck in this part of India has prompted us to take up this study. A hospital-based study on prevalence of cancer in various head and neck regions like oropharynx, oral cavity, pharynx, larynx, salivary glands and nasal cavity was conducted in Department of Radiation Oncology, Assam Medical College and Hospital from June 2020 to May 2021. The prevalence is found to be significantly high at 57.59%, affecting males more than females in the age group of 50-59 years. HNCA of hypopharynx and oral cavity constituted a major burden of total body cancer. This study hopes to quantify and analyse the HNCA spectrum and should help as a starting point for a much needed population based study in this region. A comprehensive effort is required to identify the cause of such high prevalence of HNCA in this region of India, generate awareness and treatment options suited to meet this challenge.

KEYWORDS

INTRODUCTION

Head and neck cancers (HNCA) account for 4.8% of all cancers globally and 14.3% of all cancers in India.¹ It is the 5th most common cancer in the world by incidence and 6th leading cause of cancer related mortality globally.² There is a high prevalence of HNCA in northeastern region of India which can be associated with pervasive habit of using tobacco, lime and betel.³ In the present study, prevalence of HNCA in Upper Assam was found to be very high. Carcinoma hypopharynx formed the largest group. The major concern is morbidity and mortality associated with this disease. Many causative factors that are implicated are tobacco consumption in its various forms, alcohol, cigarette smoking, lack of awareness, and lack of proper nutrition.

METHODS AND MATERIALS

It is a hospital based observational study on prevalence of head and neck regions like oropharynx, oral cavity, pharynx, larynx, salivary gland and nasal cavity and was conducted in the Department of Radiation Oncology, Assam Medical College and Hospital from June 2020 to May 2021. Only histopathologically confirmed cases were included in the study.

RESULTS AND DISCUSSION

During this 1 year period, a total of 158 cases of total body malignancies (TBM) were seen. Out of this, 91 cases were of malignancies of the head and neck region. According to different studies, the prevalence of HNCA with respect to total body malignancies varies from 9.8% to 42.7%.^{4,5,6,7,8,9} In our study, the prevalence was 57.59%. Such high prevalence in this region may be attributed to several factors predisposing to HNCA. There are some common oral habit prevalent in this region like use of tobacco, lime, betel and smoking which may be one of the prominent causes. The data collected from our study points to an alarmingly high prevalence of HNCA in this region of Assam. The commonest HNCA obtained was hypopharyngeal carcinoma comprising of 32 cases (35.16%) followed by oral cavity cancers comprising of 24 cases (26.37%). [Table 1] Hypopharyngeal carcinoma comprised of 20.25% of TBM followed by oral cavity cancers (15.19%). Carcinoma of PNS was the least common comprising of .63% of TBM and 1.10% of HNCA. The study conducted by Srikantia et al.¹⁰ showed that hypopharynx was the most common site involved (35.6%) followed by oropharynx (28.9%), anterior 2/3rd of tongue (8.9%), supraglottic cancer (17.8%), unknown

primary of neck and nasopharynx both contributed 4.4%. The case-control study by Mahanta et al.¹¹ included 87 patients of head and neck squamous cell carcinoma. In the study, as a primary site of tumor, hypopharynx was reported to have the highest number of patients (33%), followed by oral cavity (25%), oropharynx (18%) and primary tumors of the larynx (4%).

Age And Gender Distribution

The commonest age group is 50-59 years comprising of 31 cases (34.07%) [Table 2]. 32.97% cases were from the age group 60-69 years and 17.58% in 40 -49 years. Only 6 patients were above 70 years of age. Mean age was 54.95 years with standard deviation (SD) of 10.58 years. There was no such predilection of age for malignancies of lymph nodes as the cases were evenly distributed. Similar results were observed in various studies. A study by Madhani et al.¹² on acute changes in thyroid profile during EBRT of neck reported a mean age of 52.9 years with a Standard Deviation of 10.93 years for the patients in the study. A study done by Banipal et al.¹³ on thyroid diseases that occur as a sequelae following treatment of head and neck cancers reported a mean age of 52.8 years with a Standard Deviation of 10.33 years for the patients in their study.

In the gender distribution, male cases were far more common than female comprising of 72 males to 19 females, (3.79:1) [Table 3]. Similar observations is reported in various literatures.^{12,13} The male predominance is due to the fact that males are more exposed to habit of smoking and tobacco chewing, and of their increased awareness and accessibility to health-care service. As the male female ratio in the general population census is 3.79:1, the predominance of HNCA in males was found to be statistically highly significant ($P < .001$).

Histopathological Pattern

Squamous cell carcinoma (SCC) was the commonest histological type in HNCA comprising of 96.70% cases [Table 4]. It is followed by adenocarcinoma (2.20% cases) and only 1 case of neuroendocrine histology. Similar observations were seen in various studies.^{13,14}

Table 1: Subsite Distribution Of HNCA

Primary tumor site	Number (n)	Percentage (%)
Hypopharynx	32	35.16
Oral cavity	24	26.37
Oropharynx	14	15.38

Larynx	13	14.29
Unknown primary of neck	4	4.40
Salivary glands	2	2.20
Nasopharynx	1	1.10
Paranasal sinus	1	1.10
Total	91	100

Table 2: Number Of Cases Of HNCA In Relation To Age

Age group (in years)	Number (n)	Percentage (%)
<30	1	1.10
30-39	7	7.69
40-49	16	17.58
50-59	31	34.07
60-69	30	32.97
≥70	6	6.59
Total	91	100
Mean ±S.D.	54.95±10.58 years	

Table 3: Gender Distribution Of HNCA

Sex	Number(n)	Percentage (%)
Male	72	79.12
Female	19	20.88
Total	91	100
Ratio (male: female)	3.79:1	

Table 4: Histopathological Types Of Head And Neck Malignancy

Histopathological type	Number(n)	Percentage (%)
Squamous cell carcinoma	88	96.70
Adenocarcinoma	2	2.20
Neuroendocrine	1	1.10
Total	91	100

CONCLUSION

This study shows that, the prevalence of head and neck cancer is significantly high at 57.59%. Majority of HNCA are histologically squamous cell carcinoma affecting the age group 50-59 years with males outnumbering females (3.79:1). Therefore, HNCA constituted a major burden of total body cancers in our hospital. The highest number of cases were of hypopharyngeal cancers (35.16%) followed by oral cavity cancers (26.37%). This finding is indicative of a pertinent fact that HNCA is a condition common in this region of the country which requires prompt attention. The increasing number of HNCA cases is a major cause of concern as it is associated with high morbidity and mortality. Factors associated are poor socioeconomic condition, tobacco consumption in its various forms, lime with betel-leaf and betel-nuts, alcohol and smoking habits. Also, lack of awareness about cancer and non-existent cancer prevention and screening program have all made the scenario even worse. This study hopes to quantify and analyze the spectrum of HNCA in this region of Assam. A comprehensive effort is required to identify the cause of such high prevalence in this region of Assam, generate awareness and treatment options suited to meet this challenge.

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