



## Original Research Article

# CLINICAL TRENDS OF OCCURENCE OF VARIOUS HEAD AND NECK CANCERS (RETROSPECTIVE, OBSERVATIONAL STUDY FOR 5 YRS (2020-2025))AND THEIR HISTOPATHOLOGICAL STUDY IN DEPARTMENT OF ENT AT TERTIARY CARE HOSPITAL, GVPIHC & MT

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**ABSTRACT**

**Background:** Head and neck cancers represent a significant burden of cancers, collectively ranking fourth for cancer incidence and second for cancer mortality worldwide. The objective is to study the epidemiological and histological aspects of Head and Neck cancers in department of ENT, GVPIHC & MT.

**Materials and Methods:** This was a descriptive, retrospective study conducted over a period of 5 years from 2020 to 2025.

**Results:** We collected 477 cases of head and neck tumors. 91 cases were histologically proven malignant. The mean age was 52 yrs. Incidence of head and neck cancers is more among males compared to females, with male to female ratio of 3:2. Most common site is oral cavity. Most common histological type is squamous cell carcinoma of well differentiated type.

**Conclusion:** Head and neck cancers remain relatively common in our country. Improving prognosis depends on early diagnosis of the condition, resuscitation resources and prompt management.

**Keywords:** Cancer, Head and Neck, Histopathology, GVPIHC & MT.

**INTRODUCTION**

Head and neck cancer (HNC) is a major public health problem in India. Head and neck cancer (HNC), in particular, accounts for 30% of the all-cancer cases. HNC accounted for about 26% of all cancer cases in males and 8% in females.<sup>[1]</sup> The risk of developing HNC was 1 in 33 for males and 1 in 107 for females.<sup>[1]</sup>

In India, the number of cancer cases is rising. According to GLOBOCAN 2020, there will be 2.1

million new cancer cases in India by 2040, an increase of 57.5% from the year 2020.<sup>[2-4]</sup> Moreover, one in nine Indians has a lifetime risk of developing cancer.<sup>[4]</sup> Furthermore, a significant rise in the incidence of HNC was noted in the Indian population-based cancer registries (PBCRs) of Aurangabad, Delhi, Chennai, and Bhopal for males, and Nagpur for females.<sup>[5]</sup>

All regions reported oral cavity as a leading cancer site followed by larynx, hypopharynx and tonsil except the northeastern region registries where

hypopharynx was the top leading cancer. The burden of other sites of HNC is low.

There are a number of factors that can increase the risk of a person developing head and neck cancer, including smoking, moderate to heavy alcohol consumption, exposure to asbestos and other toxic substances, and genetic/family history of cancer. The diversity of etiological factors and the high mortality rate of upper aerodigestive tract cancers motivated the choice of our study, whose general objective was to study the epidemiological and histopathological aspects of upper aerodigestive tract cancers in the Ear, Nose, and Throat (ENT) and Head and Neck Surgery Department GVPIHC&MT.

## MATERIALS AND METHODS

**Study Setting:** Our study was conducted in the Ear, Nose, and Throat (ENT) and Head and Neck Surgery Department at GVPIHC &MT

**Materials:** Our material consists of all the medical records of patients hospitalized in the department.

**Data Sources:** We Used the Following Data Sources

- Consultation registers
- Hospitalization registers
- Pathology report registers

### Data Collection Support

We gathered information contained in patient files (Data Collection Form).

### Methods

**Study Type and Duration:** This is a retrospective descriptive study spanning over 5 years from September 1, 2020, to Se, 2025.

**Target Population:** It encompassed all patient records hospitalized in the Ear, Nose, and Throat and Head and Neck surgery Department, GVPIHC &MT

**Study Population:** The study focused on the records of patients admitted for various head and neck tumors in ENT Department at GVPIHC&MT.

### Methods

**Study Type and Duration:** This is a retrospective descriptive observational study spanning over 5 years from September 1, 2020, to August 30, 2025.

**Target Population:** It encompassed all patient records hospitalized in the Ear, Nose, and Throat (ENT) and Head and Neck Surgery Department at GVPIHC&MT

**Study Population:** The study focused on the records of patients admitted with various head and neck masses in ENT Department at GVPIHC &MT during September 1, 2020, to August 31, 2025

### Selection Criteria

**Inclusion Criteria:** We included in this study all the patient records, admitted in our hospital with various head and neck masses which were treated and followed up at the ENT department of GVPIHC&MT from September 1, 2020, to August 31, 2025.

Their histopathological reports were taken for our study

### Exclusion Criteria:

Incomplete records, patients lacking histological evidence, and patients hospitalized for other cancers were excluded, histopathologically inadequate samples.

**Sampling:** We conducted a comprehensive sampling of all patient records meeting our selection criteria. We compiled patient records meeting our selection criteria.

## RESULTS

During our Retrospective Observational study conducted, in Department of ENT at medical institution GVPIHC &MT over a period of 5yrs from 2020 to 2025,we have collected total of 477 cases of head and neck tumors of which 91 cases were malignant(biopsy proven).Hence its noteworthy that head and neck malignancies accounted for 19.07%of all head and neck tumors cases admitted and treated in our ENT Department at GVPIHC &MT over a period of 5yrs from 2020 to 2025.

The mean age of patients in cancer group was 52.17 years with a range from 15 years to 80 years [Table 1].

**Table 1: Distribution of 91 patients with head and neck malignancies according to age groups.**

Age group	Number	Percentage (%)
[5-20]	1	1.11%
[21-35]	10	11.11%
[36-50]	32	35.15%
[>51]	48	53.33%
Total	91	100%

In our study out of 91 patients 54 were males and 37 were females,with sex ratio of 3:2

**Table 2: Anatomical site wise distribution of head and neck malignancies**

Anatomical site wise distribution	Number of cases
Nose&PNS	3
Oral cavity	33
Nasopharynx	03
Oropharynx	05
Laryngopharynx	04
Larynx	18
Thyroid gland	10
Major Salivary Glands	4
Post cricoid	5

Ear	2
Pre auricular region	2
Lymphnode	1
Misc	1
Total	91

Out of 91 cases of head and neck malignancies diagnosed in our ENT Department over 5years. 4 cases are of major salivary gland malignancies.4.39% of head and neck malignancies are major salivary

gland malignancies.2 are arising from parotid and two from submandibular gland.All 4 cases of major salivary gland malignancies are histologically mucoepidermoid carcinoma.

**Table 3: Age wise distribution of salivary gland tumors**

S.NO	Age	No. of patients
1	20-30	1
2	30-40	-
3	40-50	2
4	50-60	-
5	60-70	1

**Table 4: Histopathology of salivary gland tumors**

S.No	Major salivary gland	No.of patients	HPE
1	Parotid	2	MEC
2	Submandibular gland	2	MEC

10.98% of head and neck malignancies are thyroid malignancies. Out of 10 thyroid gland malignancies 8 were papillary carcinoma of thyroid,1 case is follicular variant of papillary carcinoma and 1 case is

follicular carcinoma of thyroid. Out of 10 ,9 were female patients and 1 patient was 42 yrs male. Mean age of female patients was 41yrs.

**Table 5: Age wise distribution of thyroid Malignancy**

S.NO	Age group	No. of female patients
1	21-30	4
2	31-40	1
3	41-50	1
4	51-60	2
5	61-70	1

33 out of 91 patients had oral cavity malignancies.36.26%of head and neck malignancies are oral cavity malignancies

**Table 6: Distribution based on anatomical subsites in oral cavity**

S.No	Anatomical subsite	No.of patients
1	Buccal mucosa	03
2.	Tongue	17
3.	Retromolar region	04
4.	Gingiva	02
5.	Palate	05
6.	Floor of mouth	02
	Total	33

17 out of 33 patients have tongue malignancy, out of which 13 cases were well differentiated squamous cell carcinoma, 3 cases were moderately differentiated squamous cell carcinoma and one case

was metastatic squamous cell carcinoma. Out of 17,4 patients were females and 13 patients were males with M:F ratio of 3:1.

**Table 7: Age wise Distribution of tongue malignancy in males**

S.NO	Age group	No. of male patients
1.	21-30	1
2.	31-40	1
3.	41-50	5
4.	51-60	2
5.	61-70	3
6.	71-80	1
	Toatal	13

Among males highest incidence is seen in the age group of 41-50 yrs.

**Table 8: Age wise distribution of tongue malignancy in females**

S.NO	Age group	No. of female patients
1	41-50	1
2	51-60	2
3	61-70	1
	Total	4

Out of 33 cases 5 cases were of malignancy palate. 2 cases were well differentiated SCC, 1 case was moderately differentiated SCC, 2 cases were mucoepidermoid carcinoma. 4 out of 5 cases were females and 1 is male, M:F ratio of 1:4. Mean age of female group was 51 yrs.

4 out of 33 cases involved retromolar area. All 4 patients are males. 3 cases were well differentiated SCC and 1 was moderately differentiated SCC. Mean age of the male patients was 57 yrs.

3 patients had buccal mucosal malignancy, 2 were males and 1 was female. All the three cases were histologically well differentiated SCC.

2 cases had gingival malignancy. 1 was male and 1 was female. Both the cases were well differentiated squamous cell carcinoma.

2 cases with malignancy at floor of mouth, both the patients were males. 1 case is well differentiated SCC and the other was moderately differentiated SCC.

Out of 91 patients with head and neck malignancies 3 presented with nasopharyngeal mass with incidence being 3.29%. Among 3, 2 were males and 1 was female. All the three cases were undifferentiated carcinoma. Both the male patients were 70 yrs and female was 26 yrs.

Out of 91 patients 5 cases were of oropharyngeal malignancies. 3 cases were of well differentiated SCC and 2 were moderately differentiated SCC. 4 patients were males and 1 was female. 2 cases presented with

tongue base growth, 1 case growth of tonsil extending to tongue base and 1 presented with non healing ulcer over soft palate and 1 case presented with growth at vallecular.

4 patients in our study presented with involvement of laryngopharynx, with incidence being 4.4%. 3 cases were histologically well differentiated SCC and 1 was moderately differentiated SCC. 3 were females and 1 was male.

5 patients out of 91 presented with post cricoid growth. 4 out of 5 were females and 1 was male with M:F ratio of 1:4. 5 cases were histologically well differentiated SCC.

3 out of 91 patients presented with Nose and PNS malignancy. 2 out of 3 were males and 1 was female. 1 was sinoalveolar mass histologically it was adenocystic carcinoma, 1 was basal cell carcinoma presented in vestibule of nose and 1 was sinonasal carcinoma presented in right nasal cavity.

2 cases presented with External auditory canal mass, both were females and histologically both were moderately differentiated SCC.

2 cases presented with mass in preauricular region, 1 patient was male, 1 was female. 1 was histologically angiosarcoma and 1 was BCC.

1 patient 54 yrs female presented with lymph node swelling, node was sent for HPE and histologically came to be Non Hodgkins Lymphoma.

18 out of 91 presented with laryngeal carcinoma.

**Table 9: Distribution based on anatomical subsite**

S.NO	Anatomical subsite	NO. of patients
1	Supraglottic	07
2	Glottis	11
3	Subglottic	00

All Laryngeal carcinomas are well differentiated SCC.

Among 18, 14 were males and 4 were females with male: female ratio of 7:2. Higher incidence is seen within 61-70 yrs of age.

**Table 10: Age wise distribution of Laryngeal malignancy**

S.No	Age group	No. of patients
1	10-20	1
2	21-30	0
3	31-40	0
4	41-50	6
5	51-60	2
6	61-70	6
7	71-80	3
Total		18

## DISCUSSION

Head and Neck cancers are responsible for significant morbidity and mortality, with notable variations in incidence and survival rates across different geographic regions and demographic groups.

In India, more than 65% of patients with HNC attend the hospital with locally advanced disease.<sup>[6-8]</sup> Late-stage presentation, lack of access to cancer care and failure to complete treatment lead to poor survival in HNC patients.<sup>[9,10]</sup>

This research paper aims to summarise the incidence of various HNC presented to ENT OPD at our tertiary care center GVPIHC&MT.

In our present study, 477 cases presented with head and neck masses to our ENT OPD, 91 were proven malignant accounting to 19%. In our study out of 91 patients 54 were males and 37 were females, with sex ratio of 3:2. The mean age of patients in cancer group was 52.17 years with a range from 15 years to 80 years. Out of 91 patients 48 patients are above 50 yrs. Similar results were seen in study conducted by Sonali Bagal et al, H&N cancer incidence was more in males and high incidence in age group above 60 yrs have high incidence rates.<sup>[1]</sup>

Most common site involved is oral cavity (36%) followed by larynx (19.7%) and then thyroid (10.9%) accounting for 2/3rd of total cases.

Out of 91 cases 33 cases presented with oral cavity malignancy. Tongue is the most common site accounting for 52% of the cases, with male preponderance of 3:1. Lateral border of the tongue is the most common site in our study. Histologically most of the cases are well differentiated squamous cell carcinoma. 1 out of 17 was metastatic SCC. Results were similar to study conducted by Rohan Chandra Gatty et al 2nd common site was Hard palate. Malignancy hard palate was common among females with 4:1 ratio with mean age of 51 yrs. Most common histology was MEC and well differentiated SCC. The other sites involved were buccal mucosa, retromolar trigone, gingiva and floor of mouth with male preponderance and histologically well differentiated SCC.

In our study 2nd most common site was larynx accounting for 18% of cases. In Larynx the most common anatomical subsite involved was glottis followed by supraglottis. M:Fratio of 7:2. Higher incidence is seen within 61-70 yrs of age. All laryngeal malignancies in our study was histologically well differentiated SCC results were similar to study conducted by Jitendra Pratap Singh Chauhan et al.<sup>[12]</sup>

3rd common site in our study was thyroid with M:F ratio of 1:9, hence thyroid malignancies were more common in females. Among females highest incidence was seen in the age range of 21-30 yrs with overall mean of 41 yrs. Most common histological type is papillary carcinoma thyroid. Our study results were similar to the study conducted by Giri Pranav et al.<sup>[13]</sup>

6% of cases presented with post cricoid growth with M:F of 1:4, all female patients were within 50-60 yrs which was similar to study conducted by Venkata Krishna Reddy et al.<sup>[14]</sup> All cases were histologically well differentiate SCC

6% presented with oropharyngeal malignancies with M:F 4:1. MC site in our study was tongue base, other sites involved were soft palate, lower pole of tonsil extending to tongue base, vallecula. Histologically all oropharyngeal malignancies were well/moderately differentiated SCC.

4 patients in our study presented with involvement of laryngopharynx, with M:F 1:3.3 cases which was similar to study conducted by Fatima et al, were histologically well differentiated SCC and 1 was moderately differentiated SCC.

In our study parotid and submandibular gland malignancies were reported accounting for 4.39% of head and neck malignancies with M:F ratio of 3:1. All 4 cases of major salivary gland malignancies are histologically mucoepidermoid carcinoma which was similar to study conducted by J Margaret Theresa et al.<sup>[16]</sup>

3 cases presented with nasopharyngeal mass with M:F 2:1 with bimodal age presentation. Both the male patients were 70 yrs and female was 26 yrs. All the three cases were undifferentiated carcinoma which was similar to study conducted by Ningthoujam Dinita Devi et al.<sup>[15]</sup>

3 cases presented with Nose and PNS malignancy, with M:F ratio of 2:1. Varied histological presentation was noted adenocystic carcinoma, basal cell carcinoma, sinonasal carcinoma.

2 cases presented with External auditory canal mass, both were females and histologically both were moderately differentiated SCC.

2 cases presented with mass in preauricular region, 1 patient was male, 1 was female. 1 was histologically angiosarcoma and 1 was BCC.

1 patient 54 yrs female presented with lymph node swelling, node was send for HPE and histologically came to be Non Hodgkins Lymphoma.

## CONCLUSION

In our study, Mean age of patients in cancer group was 52.17 years with a range from 15 years to 80 years. Male:Female ratio of 3:2. Most common site involved is oral cavity followed by larynx. Thyroid, post cricoid and hard palate malignancies were common in females. Overall, most common histological type is SCC of well to moderately differentiated. SCC is radisensitive and chemosensitive. Hence early diagnosis and treatment increases 5yrs survival rate of the patients.

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