Pattern of head and neck malignancies in eastern part of Nepal

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ABSTRACT

The term head and neck refers to the upper aerodigestive tract, the salivary glands, the thyroid, parathyroid glands, the sino-nasal tract and the skin of the head and neck region. Malignancies at these sites are important due to the divergence in their behaviors and prognosis. A retrospective, cross sectional, series of cases were studied to determine the pattern of head and neck malignancies in our department from January, 2005 to July, 2006. A total of 90 cases of head and neck malignancies proven on histopathology were studied. Pharynx 25(27.78%) was the commonest site involved by cancer. In the pharynx, malignancies at the nasopharyngeal region contributed to the bulk of the tumor constituting 12(48.00%). Histopathologically, squamous cell carcinoma was seen in 61, (67.77%) subjects. Most of the patients presented in IIIrd or IVth stage of disease. The commonest treatment strategy adopted was surgery with post operative radiotherapy. Nasopharyngeal carcinoma is a major concern in this part of the region.

Keywords: Head and neck, malignancies, Nepal.

INTRODUCTION

The term head and neck refers to the upper aerodigestive tract, the salivary glands, the thyroid and parathyroid glands, the sino-nasal tract and the skin of the head and neck region.[1] Malignancies at these sites are important due to the divergence in their behaviors and prognosis. The trend of various malignancies differs in different geographical regions. The most frequently occurring cancers of the head and neck area in males are oral, pharyngeal and laryngeal cancers, particularly in Indian subcontinent.[2] Cancer is highest and most difficult to combat in wealthier westernized nations where smoking, lack of exercise and healthy dietary habits are more prevalent.[3] We present our experience through this paper as various aspects of this disease like age, sex, geographical distribution, tumor sites and histological type with treatment modalities were studied.

MATERIALS AND METHODS

All suspected cases of malignancies; located in the ear-nose-throat (ENT)-Head and Neck region; that were subsequently proven by biopsy among patients attending the outpatient department of ENT-Head & Neck Surgery from January, 2005 to July, 2006 were included in this retrospective, cross sectional, series of cases. Detailed clinical data were recorded and routine investigations were carried out before taking biopsy of the representative area for histopathological examination.90 cases were confirmed by histopathological diagnosis. After confirmation of the diagnosis only the operable cases were operated. Patients unwilling to undergo surgery and inoperable cases were referred for radiotherapy and chemotherapy.

RESULTS

Out of 90 cases, maximum number of cases were in 5th decade (25.6%) with a male:female ratio of 1.6:1. Table-2 shows geographic distribution of which 46 malignancies were from plains and 44 were from hills. The commonest site of occurrence of malignancy was observed in pharynx 25 (27.7%) of which nasopharyngeal region contributed to the bulk of the tumor constituting 12 (48%) followed by larynx 19(21.1%), oral cavity 18(20%), thyroid 10 (11.1%) and nose/ paranasal sinuses 8 (8.8%). Highest number of epithelial malignancies observed on histopathology were squamous cell carcinoma 61 (67.7%), followed by papillary carcinoma of thyroid 8 (8.8%), adenocarcinoma, mucoepidermoid carcinoma, malignant melanoma and lymphoma 3

Table-1: Age range of the patients

Age range (years)	No.	%
0-9	1	1.1
10-19	2	2.2
20-29	9	10
30-39	9	10
40-49	23	25.5
50-59	20	22.2
60-69	15	16.7
70-79	9	10
80-89	2	2.2
Total	90	100

Table-2: Sex and geographical distribution

	Distribution	No.	%
Sex	Male	55	61
	Female	35	39
Geography	Plain	46	51
	Hill	44	49

(3.3%) each. The adenoid cystic carcinoma and basal cell carcinoma were observed in 2 (2.2%) each type.

The observations of clinical staging in this study revealed a maximum of 40 cases (40.4%) in stage IV followed by 22 cases (24.4%) in stage I, 16 cases (17.7%) in stage III and a minimum of 12 cases (13.3%) in stage II.

The commonest mode of treatment was surgery with radiotherapy in 34 (33.3%) cases followed by radiotherapy in 30 (33.3%). However a fair number of cases 17 (18.8%) refused treatment.

DISCUSSION

Head and neck malignancies were predominantly found in 5th decade of life followed by 6th decade which is similar to the inding observed by Kurtulmaz *et al*[4] and Mehrotra *et al*.[5]

Most of the studies reported male preponderance similar to ours.[6-8] In a study on cancer pattern in eastern region of Nepal conducted by Lahkey *et al*[9] observed malignancies to be commoner in the Terai dwellers which is in accordance with our studies. This agreement throws light on the exposure to predisposing factors such as industrialized areas, located in the Terai belt and easy accessibility of the plain dwellers to this institution than those dwelling in the high hills.

This study revealed malignancy of pharynx 25 (27.7%), larynx 19 (21.1%), oral cavity 18 (20%), thyroid 10

Table-4: Incidence of various tumor types on histological examination

Tumor histology	No.	%
Squamous cell carcinoma	61	
Undifferentiated carcinoma	1	1.1
Adenocarcinoma	3	3.3
Adenoid cystic carcinoma	2	2.2
Mucoepidermoid carcinoma	3	3.3
Malignant melanoma	3	3.3
Papillary carcinoma	8	
Basal cell carcinoma	3	3.3
Medullary carcinoma	1	1.1
Pleomorphic carcinoma,	1	1.1
Osteogenic sarcoma	1	1.1
Lymphoma	3	3.3
Total	90	100

T**able-3:** Tumor distribution according to site

Primary site	No.	%
Pharynx	25	27.7
Larynx	19	21.1
Oral cavity	18	20
Thyroid	10	11.1
Nose/PNS	8	8.9
Salivary gland	3	3.3
Ear	2	2.2
Maxilla/mandible	1	1.1
Cheek	1	1.1
Total	90	100

(11.1%), nose/PNS 8 (8.8%), salivary gland and maxilla/ mandible 3 (3.3%) and ear 2 (2.2%). Minimum number of cases was seen in cervical region and cheek 1(1.1%) each.

However, the results in two of the studies conducted in Nepal by Baskota *et al*[10] and Thapa N *et al*[11] differed in comparison to ours. Baskota *et al*[10] showed laryngeal malignancies (25.8%) to be commoner than pharyngeal (19.5 %), which was followed by oral cavity (18.8%) and thyroid (11.9%) malignancies. Whereas malignancies of thyroid (20%) ranked highest followed by larynx (17.1%), oropharynx and oral cavity (14.3%) each in a series by Thapa *et al*.[11] The difference in this study could probably be because of the increased number of nasopharyngeal carcinoma in this part of the region that added to the bulk of pharyngeal carcinoma.

In spite of the diversities in the distribution of the factors influencing demographic profiles of head and neck malignancies and its histological variant worldwide, squamous cell carcinoma has been found to be commonest of all histological variants.

In the present study, highest number of epithelial malignancies observed on histopathology were squamous cell carcinoma (61; 67.7%), followed by papillary carcinoma of thyroid (8; 8.8%), adenocarcinoma, mucoepidermoid carcinoma, malignant melanoma and lymphoma (3; 3.3%). The adenoid cystic carcinoma and basal cell carcinoma were observed in (2; 2.2%) of each type. The present study is in accordance with the study of Baskota *et al*.[10]

Table-5: Tumor distribution according to the stages

Tumor stage	No.	%
I	22	24.4
II	12	13.4
III	16	17.8
IV	40	40.4
Total	90	100

Table-6: Overall treatment modality

Treatment modality	No.	%
Surgery+Radiotherapy	34	37.8
Radiotherapy(RT)	30	33.3
Refused treatment	17	18.9
Palliative surgery+Chemotherapy+RT	4	4.4
RT+Chemotherapy	3	3.3
Surgery	2	2.2
Total	90	100

In this st udy, majority of patients (61.1%) presented in advanced stage (III-IV) of the disease at the time of diagnosis. Our findings are comparable to the study by Kurtulmaz *et al*,[4] who reported 43.1% cases at earlier and 56.9% cases at advanced stage of the disease.

This study showed that most patients presented in their advanced stage of the disease, probably because of factors such as low socio- economic conditions, ignorance of the disease until their routine work was affected or they were disabled and also inaccessibility to the nearest hospital among those living in the hills.

The commonest modality of treatment for the management of head and neck malignancies in this study was surgery (33.3%) followed by radiotherapy (33.3%) alone. Our finding is in tune to the study by Baskota et al[10] where surgery was the commonest mode of treatment.

Thus we found that nasopharyngeal carcinoma was a major concern in the eastern part of Nepal

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