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Incidence of Oral Cancer as Reported at Regional Cancer Centre, Bikaner During the Year 2002-2008

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ABSTRACT

Oral cancer is one of the commonest cancer in India. No study highlighting the incidence of oral cancer has been reported from Bikaner, Rajasthan. To know the incidence of oral cancer cases reported at the center. A single institutional retrospective study of seven years from 2002 to 2008 was designed. Data of oral cancer cases reported during 2002 to 2008 was retrieved from the records. The data obtained was tabulated and comparison drawn on the observed variables. Results showed a high incidence of oral cancer at our Institution. Tongue is the most common site in these cases. Oral cancer is more common among males. Properly structured site specific data like this can augment National Cancer Registry Programme and is an essential indication for the magnitude and pattern of cancer problem in this region.

INTRODUCTION

Oral cancer is a major health problem across the world. It is one of the ten most common cancers in the world. It has been well recognized since the beginning of this century that oral cancer is one of the commonest cancer in India. For a long time this recognition was based upon hospital frequency statistics by looking at proportion of oral cancer among all cancer cases diagnosed. The incidence from National Cancer Registry Project of the Indian Council of Medical Research confirms the fact that oral cancer was indeed a common form of cancer in India [1]. In the developing world the oral cavity is the fourth commonest site of carcinoma after lung, stomach and liver in males while in females it is the fifth commonest cancer after cervix, breast, stomach and lung [2]. Tobacco use and excessive alcohol consumption have been account for 98% of cancer in the oral cavity. The oral cancer risk increases when tobacco is used in combination with alcohol or areca nut. The evidence that smokeless tobacco causes oral cancer was confirmed by the International Agency for Research on Cancer.

MATERIALS AND METHODS

This is a single institutional retrospective study of seven years from 2002 to 2008. The catchment area of this study was around Bikaner. All registered cases of oral cancer including lip, tongue, gum, buccal mucosa and floor of mouth were included in this study to find out the incidence rate of oral cancer and to compare with other cancer center in India with our institute.

RESULTS

A total of 41263 new cancer patients were registered in the department during 2002 to 2008 out of which 3745 patient were of oral cancer. Oral cancer was more common among males. During this period of study 2934 male and 811 females were registered. Oral cancer in male is 4th most common malignancy after Head & Neck (Excluding Oral Cavity), Gastro Intestinal Tract (GIT) and Lung Cancer, where as in female it is 5th common cancer after Cervix, Breast, G.I.T. and Head & Neck. The Tongue was found to be the most common site involved by the malignant process and was observed in 58.10% of our patients followed by the buccal mucosa in 12.95% of the oral cavity cancer.

DISCUSSION

Acharya Tulsi Regional Cancer Treatment & Research Institute, S.P. Medical College, Bikaner is situated in North-West Part of the Rajasthan. Patients from Delhi, Punjab, Haryana, Uttar Pradesh also approach for treatment at this center. Oral cavity is one of the commonest malignancy at our center contributing 7.14% of all malignancy. It contributes 11.19% in male and 3.09% in female, while oral cancer represent 14% of all cancer cases at Regional Cancer Centre, Kerala, India. It constituted 17% of all cancer cases in males and 10.5% in females, making it the commonest cancers in the male and third commonest cancers among females [3]. No clear rising and decreasing pattern was noted during this study.

In this study, Oral cancer in male is 4th most common malignancy after Head & Neck (excluding oral cavity), GIT and Lung Cancer whereas in Mumbai, mouth (12.2%) was the leading site of cancer, followed by lung (7.6%), tongue (6.8%), Non-Hodgkin's Lymphoma (NHL) (5.4%) and Oesophagus (4.8%). In *Bangalore,* hypopharynx (9.3%), oesophagus (9.0%), lung (6.5%), stomach (6.4%) and mouth (5.3%) were the five leading

Table No. 1: Five most common cancers in Male

Site	2002	2003	2004	2005	2006	2007	2008	Total
Head & Neck	629	707	702	760	729	811	831	**5169**
Lung	359	395	404	492	392	494	502	**3038**
GIT	404	558	609	593	621	709	701	**4195**
Oral Cavity	398	367	413	431	406	460	459	**2934**
Haematologcial	304	334	316	349	318	383	323	**2327**

Table No.2: Five most common cancers in Female

Site	2002	2003	2004	2005	2006	2007	2008	Total
Cervix	744	748	636	581	547	637	542	**4435**
Breast	671	628	597	644	597	638	589	**4364**
GIT	361	440	483	558	512	592	581	**3527**
Oral Cavity	163	132	77	104	108	100	127	**811**
Head & Neck	261	220	248	237	184	255	249	**1654**

Table No. 3: **Percentage of Oral Cancer in Male & Female**

Year	Male		Female		Total	
	No. of Patients	%	No. of Patients	%	No. of Patients	%
2002	398	10.63%	163	4.35%	561	7.49%
2003	367	9.80%	132	3.52%	499	6.66%
2004	413	11.03%	77	2.06%	490	6.54%
2005	431	11.51%	104	2.78%	535	7.14%
2006	406	10.84%	108	2.88%	514	6.86%
2007	460	12.28%	100	2.67%	560	7.47%
2008	459	12.26%	127	3.39%	586	7.82%
Total	**2934**	**11.19%**	**811**	**3.09%**	**3745**	**7.14%**

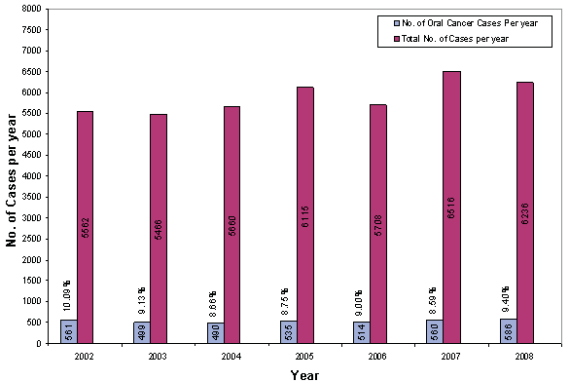

Fig. No. 1: Incidence of oral Cancer

sites in that order. In *Chennai,* stomach (9.1%) and mouth (8.4%) were the leading sites. These two sites were followed by lung (7.0%), oesophagus (6.8%), tongue (6.7%). In Thiruvananthapuram, lung (13.6%) was the leading site followed by mouth (9.4%), tongue (5.9%), NHL (5.4%) and oesophagus (5.0%). In Dibrugarh, hypopharynx (16.7%) and oesophagus (16.3%) like in past years, remained the leading sites followed by mouth (6.6%), tongue (5.4%) and stomach (5.4%) [4].

In this study Oral Cancer is 5th common cancer after Cervix, Breast, G.I.T.and Head & Neck in female whereas in Mumbai, breast (27.2%) was the leading site of cancer followed by cervix (16.8%), ovary (5.4%), mouth (5.0%) and oesophagus (3.3%). In Bangalore, cancer of the cervix was the leading site, accounting for about 29.9% of cancer in females, followed by breast (14.8%), mouth (10.5%), oesophagus (6.2%) and ovary (4.8%). In Chennai the first three leading sites were same as Bangalore. The fourth and fifth sites were ovary and oesophagus respectively. In Thiruvananthapuram, thyroid gland (9.2%) was the third leading site after breast (30.0%) and cervix (11.4%). Thyroid gland was followed by the cancers of ovary (6.0%) and mouth (5.9%). In Dibrugarh, oesophagus was the leading site, accounting for 15.7% of cancers in females, followed by breast (14.3%), cervix

(13.1%), mouth (7.4%) and ovary (6.7%) [4].

Oral cancer tends to show a marked male predilection. During this study 2934 Male and 811 female were found with a male to female ratio 3.62:1 as compared to 2.3:1 observed by Iype et.al. in Kerala [5] and 3.27:1 ratio observed by Mehrotra et.al. in Allahabad.[6].

The tongue was found to be most common site and was observed in about 58.10% of our patients followed by Buccal Mucosa 12.95% and floor of mouth 9.03%. This was similar to Iype et.al. finding from Trivindram who reported 52% of their patients had tongue involvement followed by 26% for buccal mucosa. Mehrotra et.al also reported that tongue was found to be the most common site and was observed in 42.57% followed by Buccal Mucosa in 19.14% cases. Interpretation of data from a single institution has its clear limitation. The data reflects our specific patient population reporting to the hospital and not the community as a whole. The highest rate of oral cancer is found in the developing world where oral cancer with pharynx combined is the third commonest site of cancer. In India, Bangladesh, Pakistan and Srilanka, it is most common and accounts for third of all cancers [7]. Cultural differences in the use of tobacco lead to the variation in the geographic and anatomic incidence of oral and pharyngeal cancers in accordance with dose response principle.

CONCLUSION

The finding of our study indicates a high incidence of oral cancer at our institute. Tongue is the most common site in these cases. The problem of oral cancer is very rampant in our country. The true extent of this can only be a matter of speculation as most studies on this subject are on a smaller scale and usually institution-based. Larger studies, both institution and community-based, will help to understand the true spectrum and nature of this disease and probably help device effective strategies to control it.

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