Original Article

Distribution of Cancer Patients at Rangpur Medical College Hospital, Rangpur

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Abstract:

Background: Distribution of malignant tumors affecting the different organ systems of the body were studied on 2410 new cancer patients attending the Radiotherapy Department of Rangpur Medical College Hospital during the period of 2006 to 2010. **Methods:** This hospital based retrospective study was conducted among all the new cancer cases (i.e. 2410 patients) attending radiotherapy, out-patient department (ROPD) of Rangpur Medical College Hospital from 2006 to 2010. Almost all of them were referred from different ward of this hospital, different health complex, other hospital of different specialties, specialists in different disciplines and general practitioners of this zone. Special care had been taken to exclude double entry of a patient. Majority of the patients were previously diagnosed histological as malignant neoplasm before attending ROPD. **Results:** Out of 2410 new cancer patients, 1304 cases were male and 1106 were female (1.17:1). The High incidence of 2410 cancer patients both in male and female simultaneously is observed in the age group of 49-65 years 40.66%. The highest incidence of cancer in male is larynx (14.42%) followed by lung (13.04%), oral cavity (9.89%), unknown primary (7.52%), stomach (6.13%), oro-pharynx (5.44%) and colo-rectal (5.06%). In female most commonest cancer is cervix (29.39%), breast (27.85%), oral cavity (7.59%), unknown primary (4.43%), lung (2.98%) and gall bladder (2.62%). **Conclusion:** Rangpur is the zone of tobacco and socioeconomic condition most of the peoples are low. The predisposing factors which supposed to have some relationship with the above mentioned frequently occurring malignancies of both male and female are smoking (biri, cigarette) or ingestion of potential carcinogenic substances(like betel nut, zorda, khoir, gul, tobacco etc), increased consumption of dry fish which are poorly & unhygenically preserved and contain impurities like sand, unknown chemicals, contaminated with fungus and consumption of alcohol, nutritional deficiencies and environmental factors.

Indexing words: Distribution pattern, Cancer patients, Rangpur Medical College Hospital

Introduction:

Cancer is a group of diseases involving abnormal cell growth with the potential to invade or spread to other parts of the body[1,2].

The most common types of cancer in males are lung cancer, prostate cancer, colorectal cancer and stomach cancer[3]. In females, the most common types are breast cancer, colorectal cancer, lung cancer and cervical cancer[4].

The rate of lung cancer is higher in male than female. The American Cancer Society's estimates for lung cancer in the United States for 2019 were about 228,150 new cases of lung cancer (116,440 in men and 111,710 in women). It has been found that about 142,670 deaths from lung cancer (76,650 in men and 66,020 in women)[5].

In female, cervix and breast were higher in rate than other cancer[6]. About 70% of cervical cancers occur in developing countries and comprised 90% of the cancer deaths[7,8].

Worldwide, breast cancer is the leading type of cancer in women, accounting for 25% of all cases[9]. In 2012 it resulted in 1.68 million new cases and 522,000 deaths of breast cancer patients[9].

The total population of Bangladesh was estimated at 163 million in 2016[10]. There were 13

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to 15 lakh cancer patients in Bangladesh, with about 2 lakh patients newly diagnosed with cancer each year[11].

The NICRH and BSMMU cancer registry data revealed that >66% of the cancers occur in the age group of 30–65 years. 20–25% of the cancers were diagnosed in a localized stage. The majority of the cases were diagnosed when the disease was regional (two-third of all cases). Disease with distant metastasis at the time of diagnosis was <15%[12].

The NICRH and BSMMU cancer registry data revealed that 60% of the cancers in the male and 5% of the cancers in female were tobacco related and hence entirely avoidable[13].

According to the latest WHO data published in 2017, Lung Cancers Deaths in Bangladesh reached 12,075 or 1.53% of total deaths. The age adjusted Death Rate was 11.33 per 100,000 of population ranks Bangladesh 99 in the world[6].

Tobacco use was the cause of about 22% of cancer deaths[14]. Another 10% were due to obesity, poor diet, lack of physical activity or excessive drinking of alcohol[14-17]. Other factors include certain infections, exposure to ionizing radiation and environmental pollutants[15].

In the developing world, 15% of cancers were due to infections such as Helicobacter pylori, hepatitis B, hepatitis C, human papilloma virus infection, Epstein–Barr virus and human immunodeficiency virus (HIV)[14].

Method:

This is a hospital based retrospective study. In this study, all the new cancer cases (2410) attending radiotherapy, out-patient department (ROPD) of Rangpur Medical College Hospital from 2006 to 2010 were included. Almost all of them were referred from different ward of this hospital, different health complex, other hospital of different specialties, specialists in different disciplines and general practitioners of this zone. Each and every patient was interviewed and examined thoroughly before data collection and the clinical data were recorded properly. Special care had been taken to exclude double entry of a patient. Majority of the patients were previously diagnosed histological as malignant neoplasm before attending ROPD.

In cases of suspicious patients necessary arrangement were made for confirmation of the diagnosis. Therefore these cases mostly reflect the actual distribution pattern of new all cancer cases of this zone.

Result:

Total 2410 patients, attended in ROPD of Rangpur Medical Collage and Hospital from 2006 to 2010 were included in the study. Among them 1304 were male and 1106 were female with a male and female ratio of 1.17:1. Percentage of cancer according to age group are shown in the Table I. Table II represent the total number and ratio of male and female. Table III reflex the origin, sex & percentage distribution of 2410 cancer patients. Figure 1 and 2 shows the list of top 7 ranking malignancies in both male & female in order of frequency.

Table I: Percentage of Cancer patients according to Age

Range of age	No. of patients	Percentage
15-32	318	13.19%
33-48	864	35.85%
49-65	980	40.66%
66-82	203	8.42%
83-100	45	1.86%
Total	2410	100%

Table II: Total number and male versus female ratio of patients during studied years (2006-2010)

Year	Total Number of Male patients(M)	Total Number of Female patients(F)	Ratio M:F	Total Number of Patients (both sex)
2006	193	157	1.22:1	350
2007	206	164	1.25:1	370
2008	201	169	1.18:1	370
2009	545	495	1.10:1	1040
2010	159	121	1.31:1	280
Total	1304	1106	1.17:1	2410

Table III: List of site, sex and percentage (in parenthesis) distribution of 2410 cancer patients.

Sites	Male (% of 1304 cases)	Female (% of 1106 cases)	Total (% of 2410 cases)
Oral cavity	129(9.89%)	84(7.59%)	213(8.84%)
Nasopharynx	30 (2.30%)	8(0.72%)	38(1.58%)
Oro-pharynx	71(5.44%)	11(0.99%)	82(3.40%)
Larynx	188(14.42%)	22(1.99%)	210(8.71%)
Thyroid	9(0.69%)	20(1.81%)	29(1.20%)
Salivary gland	24(1.84%)	8(0.72%)	32(1.33%)
Nose	7(0.54%)	4(0.36%)	11(0.46%)
Esophagus	56(4.29%)	13(1.18%)	69(2.86%)
Stomach	80(6.13%)	18(1.63%)	98(4.07%)
Colo-rectal	66(5.06%)	27(2.44%)	93(3.86%)
Liver	12(0.92%)	7(0.63%)	19(0.79%)
Gall bladder	22(1.69%)	29(2.62%)	51(2.12%)
Lung	170(13.04%)	33(2.98%)	203(8.42%)
Eye	13(1.00%)	4(0.36%)	17(0.71%)
Skin	31(2.38%)	8(0.72%)	39(1.62%)
Bone	27(2.07%)	9(0.81%)	36(1.49%)
Breast	12(0.92%)	308(27.85%)	320(13.28%)
Cervix	0(0.00%)	325(29.39%)	325(13.49%)
Ovary	0(0.00%)	45(4.07%)	45(1.87%)
Vagina	0 (0.00%)	14(1.27%)	14(0.58%)
Kidney	4(0.31%)	5(0.45%)	9(0.37%)
Urinary bladder	12(0.92%)	2(0.18%)	14(0.58%)
Prostate	18(1.38%)	0(0.00%)	18(0.75%)
Testis	12(0.92%)	0(0.00%)	12(0.50%)
Brain	74(5.67%)	14(1.27%)	88(3.65%)
Lymphoma	72(5.52%)	22(1.99%)	94(3.90%)
Soft tissue	15(1.15%)	8(0.72%)	23(0.95%)
Unknown primary	98(7.52%)	49(4.43%)	147(6.10%)
Others	52(3.99%)	9(0.81%)	61(2.53%)
Total	1304(100%)	1106(100%)	2410(100%)

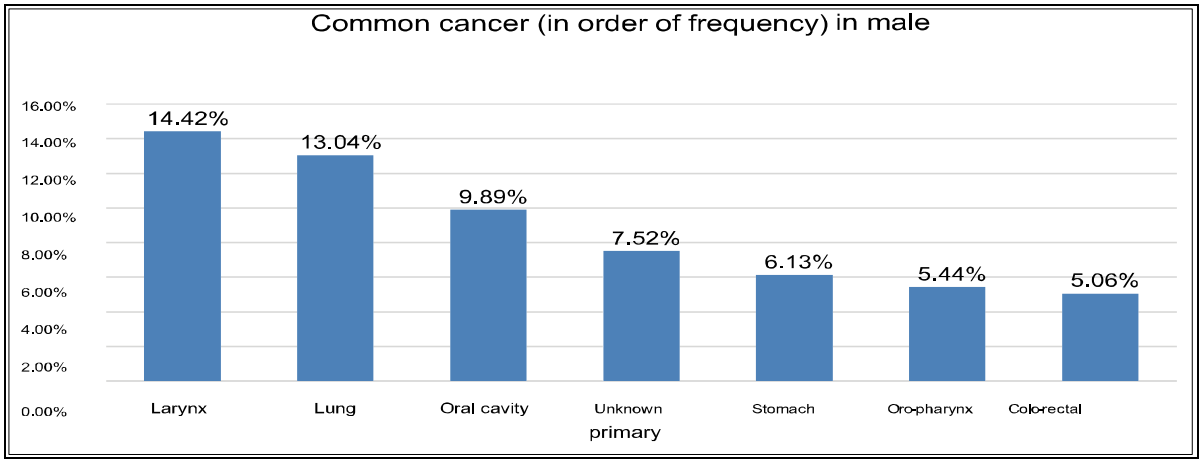


Fig 1: List of common cancer (in order of frequency) in male

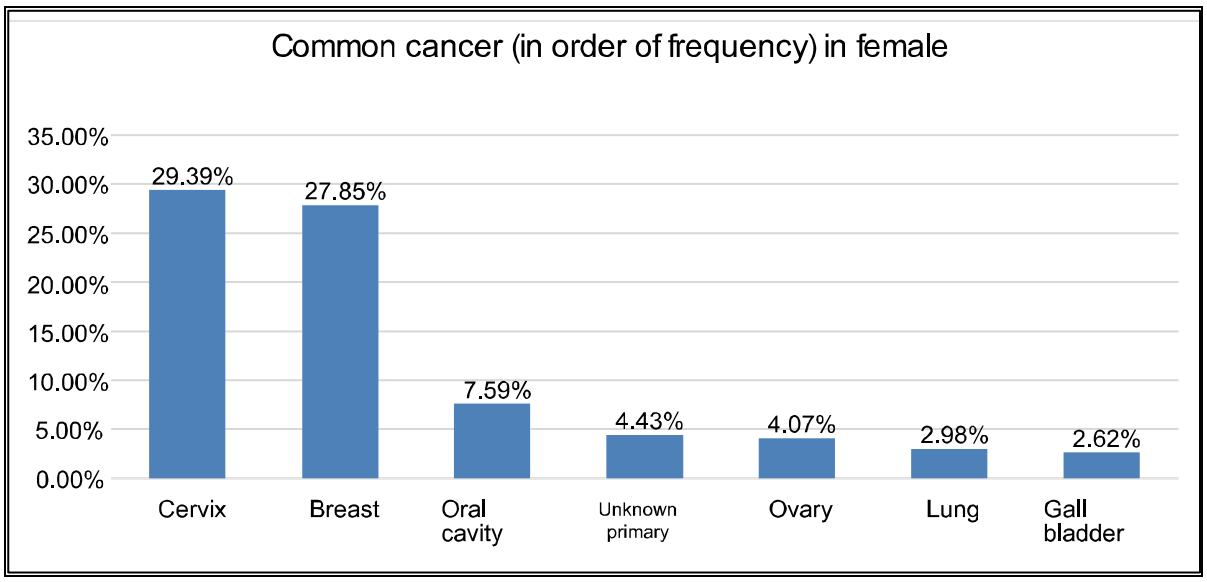


Fig 2: List of common cancer (in order of frequency) in female

Discussion:

The present study represents the increased incidence of cancer in male than in the female with a male to female ratio of 1.17:1 which corresponds to other previous studies of our country[18,19] and in abroad[20].

In male, larynx ranked top of the list (14.42%) like other previous studies of Bangladesh and western world. The other cancers in order of frequency were as follows lung (13.04%), oral cavity (9.89%), unknown primary (7.52%), stomach (6.13%), oro-pharynx (5.44%) and colo-rectal (5.06%).These findings were a bit different from those of previous other studies of our country[18,19]as show in the Table IV and V.

In female cancer of cervix was the most common (29.39%). The second in frequency was breast (27.85%). These findings were also corresponding to previous studies of our country[18,19].

The other two ranking malignancies (In order of frequency) was oral cavity (7.59%), unknown primary (4.43%), lung (2.98%) and gall bladder (2.62%). These findings were also bit different

from that of previous studies of our country[18,19] as shown in the Table V.

Table V show comparative study of 7 top malignancies in male between study of Alam et al,[18] Sharma et al[19], NMJ[21]and present study.

Table V show comparative study of 7 top malignancies in female between study of Alam et al[18], Sharma et al[19], NMJ[21] and present study.

Rangpur is the zone of tobacco and socioeconomic condition most of the peoples are low.

In this study the predisposing factors which were supposed to have some relationship with the above mentioned frequently occurring malignancies of both male and female are smoking (biri, cigarette) or ingestion of potential carcinogenic substances (like betel nut, zorda, khoir, gul, tobacco etc), increased consumption of dry fish which are poorly & unhygenically preserved and contain impurities like sand, unknown chemicals, contaminated with fungus and consumption of alcohol, nutritional deficiencies and environmental factors.

Table IV: Comparative Studies of 7 top ranking malignancies in males between the studies of Alam et al[18], Sharma et al[19], NMJ[21]and present study.

	Study of Alam et al 1990-1997 Total no. of cases-5613	Study of Sharma et al 1990 Total no. of cases-2172	NMJ 2001-2005 Total no. ofcases-1920	Present study 2006-2010 Total no. of cases-746
1)	Bronchogenic/Lung-21.98%	Bronchogenic/Lung-20.58%	Bronchogenic/Lung-13.88%	Larynx-14.42%
2)	Oropharynx-10.78%	Larynx-13.08%	Larynx-9.38%	Lung-13.04%
3)	Esophagus-9.73%	Oral cavity-8.01%	Lymphoma-8.69%	Oral cavity-9.89%
4)	Larynx-9.48%	Lymphoma-7.04%	Oropharynx-7.97%	Unknown primary -7.52%
5)	Oral cavity-6.41%	Unknown primary-6.30%	Hypo pharynx-7.24%	Stomach-6.13%
6)	Stomach-6.20%	Esophagus-5.32%	Colorectal- Carcinoma-5.73%	Oro-pharynx-5.44%
7)	Hypo pharynx-5.22%		Unknown primary-4.79%	Colo-rectal-5.06%

Table V: Comparative Studies of 7 top ranking malignancies in females between the studies of Alam[18], Sharmaet al[19], NMJ[21]and present study.

	Study of Alam et al. 1990-1997 Total no. of cases-3798	Study Sharma et al. 1990 Total no. of cases-1227	NMJ 2001-2005 Total no. ofcases-1034	Present study 2006-2010 Total no. of cases-664
1)	Cervix uteri-21.83%	Cervix uteri-24.37%	Cervix -26.50%	Cervix-29.39%
2)	Breast-15.85%	Breast-16.87%	Breast-17.70%	Breast-27.85%
3)	Oesophagus-8.27%	Oral cavity-16.87%	Oral cavity-6.87%	Oral cavity-7.59%
4)	Bronchus-7.53%	Ovary-6.36%	Ovary-6.87%	Unknown primary -4.43%
5)	Oropharynx-6.24%	Oesophagus-4.24%	Oropharynx-5.61%	Ovary-4.07%
6)	Ovary-5.40%	Oropharynx-4.17%	Lymphoma-5.75%	Lung-2.98%
7)	Larynx-5.00%	Colo-rectal-3.98%	Colo-rectal-4.26%	Gall bladder-2.62%

Conclusion:

The present study showed the distribution pattern of different type of malignancies of both male and female in the Rangpur zone. It was observed that laryngeal cancer was commonest in male and in female cancer of cervix and breast remains in the top of the list.

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