

PATTERN OF MALIGNANCIES AMONG THE PATIENTS ATTENDING THE DEPARTMENT OF RADIOTHERAPY, CHITTAGONG MEDICAL COLLEGE HOSPITAL IN THE YEAR 2007

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Abstract:

This retrospective study was done in department of radiotherapy Chittagong Medical College Hospital from 1st January 2007 to 31st December 2007. A total of 2958 patients suffering from cancer had attended the radiotherapy out-patient department, and among them 1527 (51.62%) were male and 1431 (48.38%) female, with a male/female ratio of 1.06:1

Patients of 6th decades (23.77%) and 7th decade (22.51%) were the main victims followed by 5th decade (20.82%).

Among the male, the leading cancers were lung (19.84%), followed by larynx (9.43%), oral cavity (7.92%), esophagus (7.33%), stomach (6.74%) etc.

Among the female, breast cancer (15.58%) ranked the topmost position, followed by cervix uteri (11.46%), ovary (6.70%), larynx (6.70%), oral cavity (5.66%), esophagus (5.59%).

Among pediatric age group, commonest malignancies were NHL (23.34%), followed by bone tumor (22.22%), retinoblastoma (20.00%).

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Introduction:

Cancer is a growing problem¹. It is the second greatest killer of mankind next to heart disease

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in industrialised countries². It is the principal health concern in USA³. One person in three will develop cancer within a life time and one in five will die of cancer, thus they account for more than 20% of deaths from all cases¹. It is the 4th killer in India and is due to yet abundance of infectious diseases and malnutrition².

It is not a new disease. There were records of malignant tumors as a disease entity in the "Ramayana" –an ancient Hindu mythology as early as 2000 B.C².

No age is totally immune to malignancy, though it is the disease of elderly people¹. Age has a bearing in the incidence of specific cancers⁴. Each age group has its own predilections to certain forms of cancers⁵. Though neoplastic diseases are found in all human population, yet there are some striking and regional differences, in the occurrence of different types and sites of cancers^{6,7}.

In our country, the position is not very clear because of the absence of Central Cancer Registry. Population Based Cancer Registry is yet to start. Hospital Based Cancer Registries are not yet up to the mark, as because, mainly Radiotherapy Departments of some Medical College Hospitals are maintain some portions of Cancer Registry. The result of this study will not reflect the real picture of malignancies of the country, but is supposed to focus the average picture of the malignant diseases attending the Radiotherapy Department of Chittagong Medical College Hospital located in the south-east portion of our country.

Materials & Methods:

Patients suffering from cancers who attended the Radiotherapy Department of Chittagong

Medical College Hospital from 1st January' 2007 to 31st December' 2007 were the materials of this study. They were referred from other departments of this hospital or other clinics or hospital.

Details history was taken for each patient, thorough physical examination was done. Investigations like X-ray, ultrasonography, CT scan were done for proper staging. Routine investigations like routine blood count, kidney function tests, liver function tests were done in all the cases before starting treatment. Histological confirmation was done in these cases who had no histology report at presentation.

The cases who needed surgical treatment in fact presented in post operated state for further therapy. We planned for radiotherapy in both curative, palliative and adjuvant(occasionally in neoadjuvant) settings. Chemotherapy were given for curative, palliative, adjuvant, neoadjuvant purpose either alone or concomitantly with radiotherapy. Adequate measure were taken to avoid double entry. All the documents were recorded.

Results:

Total no. of new cancer patients attending the Department of Radiotherapy, Chittagong Medical College Hospital in the year 2007 was 2958. Among them, 1527(51.62%) were male and 1431(48.38%) female. Their ratio was 1.06:1.

Table-I

Classification of patients according to age (n=2958)

Age in Years	No. of Patients	Percentage
Up to 10 years	29	0.98%
11-20 years	118	3.99%
21 -30 ,years	128	4.33%
31 -40 years	414	14.00%
41 -50 years	616	20.82%
51 -60 years	703	23.77%
61 -70 years	666	22.51%
Above 70 years	284	9.60%

Table-II

Gastrointestinal malignancies(n=985)

Sites	Male	Female	Total
Mouth & oral cavity	121(7.92%)	83(5.66%)	204(6.90%)
Salivary glands	26(1.70%)	23(1.60%)	49(1.65%)
Tonsil	45(2.95%)	39(2.72%)	84(2.84%)
Pharynx	62(4.06%)	46(3.21%)	108(3.65%)
Oesophagus	112(7.33%)	80(5.59%)	192(7.22%)
Stomach	103(6.74%)	77(5.38%)	180(5.68%)
Colorectum	95(6.22%)	73(5.10%)	168(5.68%)

Table -III

Respiratory system(n=600)

Sites	Male	Female	Percentage
Larynx including nose & PNS	144(9.43%)	96(6.70%)	240(8.11%)
Lung	303(19.84%)	57(3.98%)	360(12.17%)

Table-IV
Pancreatico-hepatobiliary System(n=96)

Sites	Male	Female	Total
Liver	20(1.31%)	24(1.67%)	44(1.48%)
Gall bladder	16(1.04%)	23(1.60%)	39(1.32%)
Bile Duct	04(0.26%)	05(0.35%)	09(0.30%)
Pancreas	03(0.20%)	01(0.07%)	04(0.13%)

Table-V
Female Reproductive System(n=296)

Sites	No.	Percentage
Cervix	164	11.46%
Ovary	96	6.70%

Table-VI
Male reproductive system((n=58)

Sites	No.	Percentage
Testis	31	2.03%
Prostate	24	1.57%
Penis	3	0.26%

Table-VII
Urinary System (n=110)

Sites	Male	Female	Total
Kidney	15(0.98%)	09(0.62%)	24(0.811%)
Urinary Bladder	58(3.80%)	37(2.58%)	95(3.21%)
Ureter	1(0.13%)	0	1(0.03%)

Table-VIII
Haemopoetic Malignancies(n=147)

Disease	Male	Female	Total
Hodgkin's Disease	26(1.70%)	22(1.54%)	48(1.62%)
NHL	52(3.40%)	32(2.24%)	84(2.84%)
Multiple Myeloma	06(0.39%)	06(0.42%)	12(0.40%)
Leukemia	02(0.13%)	01(0.06%)	03(0.10%)

Table-IX
Bones(n=62)

Type	Male	Female	Total
Osteosarcoma	17(1.11%)	12(0.83%)	29(0.98%)
Ewings sarcoma	16(1.04)	11(0.77%)	27(0.91%)
Chondrosarcoma	05(0.32%)	01(0.66%)	06(0.20%)

Table-X
Skin cancer(n=92)

Type	Male	Female	Total
Melanoma	14(0.92%)	08(0.56%)	22(0.74%)
Squamous cell carcinoma	35(2.29%)	23(1.60%)	58(1.96%)
Basal cell carcinoma	08(0.52%)	03(0.21%)	11(0.37%)
Sweat gland tumour adenocarcinoma	01(0.06%)	0	01(0.03%)

Table-XI
Miscellaneous(n=512)

Type	Male	Female	Total
Breast	01(0.06%)	223(15.58%)	224(7.57%)
Eye	16(1.04%)	08(0.56%)	24(0.81%)
Brain	33(2.16%)	27(1.88%)	60(2.02%)
Thyroid	03(0.196%)	21(1.46%)	24(0.81%)
Secondary node	59(3.86%)	49(3.42%)	108(3.65%)
Visceral metastasis with unknown primary	47(3.07%)	25(1.77%)	72(2.43%)

Table-XII
Pediatric malignancies(n=90)

Disease	Male	Female	Total
NHL	13(27.08%)	08(19.04%)	21(23.34%)
Bone tumour	11(21.92%)	09(21.43%)	20(22.22%)
Retinoblastoma	10(20.83%)	08(19.05%)	18(20.00%)
Hodgkin's Disease	09(18.75%)	06(14.28%)	15(16.67%)
Brain tumour	03(6.25%)	07(16.66%)	10(11.11%)
Leukemia	02(4.16%)	1(2.38%)	03(3.33%)
Thyroid carcinoma	0	3(7.14%)	03(3.33%)

Table-XIII
Ten leading malignancies

Sites	Male		Sites	Female	
	No.	Percentage		No.	Percentage
Lung	303	19.84%	Breast	223	15.58%
Larynx	144	9.43%	Cervix	164	11.46%
Mouth	121	7.92%	Ovary	96	6.70%
Oesophagus	112	7.33%	Larynx	96	6.70%
Stomach	103	6.74%	Mouth and oral cavity	83	5.66%
Colon and rectum	95	6.22%	Oesophagus	80	5.59%
Pharunx	62	4.06%	Stomach	77	5.38%
Metastatic node	59	3.86%	colon and rectum	73	5.10%
Urinary bladder	58	3.80%	Lung	57	3.98%
NHL	52	3.40%	Metastatic node	49	3.42%

Discussion:

Cancer problem is a global problem². It is one of the most frequent and painful cause of death. In our country, it is also not infrequent, in spite of abundance of infectious diseases and malnutrition.

Neoplastic diseases are found in all human population irrespective of sex⁶. Among 2958 patients suffering from cancer who attended the radiotherapy out-patient department of Chittagong Medical College Hospital, 1527(51.62%) were male and 1431 (48.38%) female, with a male/female ratio of 1.06:1.

Cancer is a disease of elderly people. It is rare in children and rises in frequency throughout the adulthood and occurs most often in elderly⁸. The higher frequency of cancer in the elderly is consistent with the multistage nature of the carcinogenesis which usually requires decades for cancer to develop following exposure to etiological agents⁹. Approximately 80% of the invasive cancers occur among the population of age 55 years or older in USA¹. In this study, patients aged between two and 82 years, 55.88% of the patients were of age more than 50 years. Mean age at diagnosis was 50.91 years. A bit shorter life span might the reasons behind this variation.

Though cancer may occur in all human population, yet the picture varies from country to country, from one place to other places of the same country and from center to center. According to WHO¹⁰ sources, the commonest malignancies in male in ranking order are: lung, stomach, colon/rectum, mouth/pharynx, prostate, esophagus and in female: breast, cervix, stomach, colon/rectum, lung, mouth/pharynx. In North and Western Europe the most common cancers in male are: lung, colorectum, prostate, bladder, oral cavity and in female: breast, colorectum, stomach, endometrium and cervix¹¹.

But it is difficult to get a dependable picture because of some regional etiological factors and biasness of treatment facilities specially availability of functioning radiotherapy machines. However, common malignancies among the patients attending the radiotherapy department of Sher-E-Bangla Medical College

Hospital (1996-98)¹² were ranked as follows: in male; lung, lymphoma, stomach, colorectum, urinary bladder and in female; breast, stomach, ovary, cervix, lymphoma. Common cancers among the patients attending National Institute of Cancer Research and Hospital¹³ in between 1995-98 were as follows: in male; lung, pharynx, larynx, oral cavity, esophagus and in female; cervix, breast, lung, oral cavity, pharynx, esophagus.

In this study, done in the Radiotherapy Department of Chittagong Medical College Hospital, situated in the south-east part of the country, the common malignancies in male were: lung, larynx, mouth/oral cavity, esophagus, stomach, colorectum and in female: breast, cervix, ovary, larynx, mouth/oral cavity, esophagus, stomach.

Lung cancer has become the most common form of cancer in men in the United States and in many other countries¹⁴. In the 3rd National Cancer Survey in the United States, cancer of the lung made up 21.2% of all cancers in men¹⁵. In this study lung cancer(19.84%) also ranked the topmost position in male which also co relates with those of other studies done in our country.

Laryngeal cancer constitutes 2.5% of all cancer in male in United States¹⁶. It is very common in Brazil, Sao Paulo, Bombay¹⁷. Highest incidence has been reported in Brazil and India¹⁷. It is also common in our country¹⁸. In our study, laryngeal cancer ranked 2nd (9.43%) in male and 4th (6.70%) in female.

Breast cancer is a distinctly urban disease¹⁹. In the Western countries, it is the most common tumor in women. The data from "Surveillance Epidemiology and End Results" programme of the National Cancer Institute showed that the cancer of the breast constituted 28.% of all cancers in white women, 24.9% in black women in Unites States⁸. High intake of dietary fat has been implicated in the high breast cancer incidence seen in the western countries²⁰. In this study, cancer breast constituted 15.58% of all cancers in women and ranked the top most position.

Cancer of the cervix uteri, far long the 2nd most common cancer in women in United States,

now makes up only 3.6% of all cancers taking the 6th place in ranking order among the females⁸. According to the National Cancer Control Programme in India, carcinoma cervix is the most common malignancy observed among the Indian women²¹. In majority of the radiotherapy center of our country we are getting cancer cervix as the most common malignancy among the female^{13,18,22}. Smith believes that poor obstetrical and post partum care and neglect of the symptoms of a lacerated and ulcerated cervix accounts for the 3rd greater frequency of cervical cancer among the poorer classes²³. But in our study, cancer cervix has been observed as 2nd commonest malignancy in female and preceded by breast cancer.

Striking variations in head and neck cancer sites and incidences occur among different regions, culture and demographic groups mainly because of the differing of tobacco use²⁴. Cancers of oral cavity and hypopharynx accounts for only three percent of all cancers in United States, but 50% of all cancers in Bombay, where "pan" (betel leaf), nuts, lime, catechu and arecanut are commonly chewed²⁵. In this series, head and neck cancer as a whole accounted for more than one fourth of all malignancies

Types and frequencies of pediatric neoplasms vary with age, sex, ethnicity, socioeconomic status and geographic location²⁶. Ninety patients (3.04%) included in this study belonged to pediatric age group. Among them NHL (23.34%) was the most frequent variety, followed by bone tumor (22.22%), retinoblastoma (20.00%), H. Disease (16.67%), brain tumor (11.11%) etc. In USA leukemia is the most frequent neoplastic disease among the pediatric age group²⁷. Retinoblastoma stands in the 8th position in USA²⁷. But according to geographic distribution retinoblastoma is highly frequent in India²⁸.

The results of this study have some similarities and dissimilarities with those of other studies done both home and abroad. It may not represent the exact picture of malignancy prevailing amongst the people of our country, but might not be quite unrepresentative too for those who are residing in the southeast part of our country.

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