

Clinical and Demographic Profile of Geriatric Patients in Eastern India

Seema Devi^{1*}, Rajesh Kumar Singh², Abhishek Kumar³, Raina Rana⁴ and Aman Prakash⁵

¹Additional Professor, State Cancer Institute, Department of Radiation Oncology, IGIMS, Patna, India

²Professor and HOD, State Cancer Institute, Department of Radiation Oncology, IGIMS, Patna, India

³PG 3rd Year, Department of Radiation Oncology, IGIMS, Patna, India

⁴PG 2nd Year, State Cancer Institute, Department of Radiation Oncology, IGIMS, Patna, India

⁵Statistician, State Cancer Institute, Department of Radiation Oncology, IGIMS, Patna, India

*Corresponding Author: Seema Devi, Additional Professor, State Cancer Institute, Department of Radiation Oncology, IGIMS, Patna, India.

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Abstract

Background Information: A person who is of age of 60 years or above defined as elderly or senior citizen, citizen of India. As per maintenance and welfare of patients and senior citizen Act 2007 (1) Older population is rapidly increasing in most of the countries. This increase in older population has created new field of medicine "Gerontology".

Material and Method: A retrospective analysis has been done in State Cancer Institute Patna for year 2014 to 2021. Cut-off age was kept as 85 years at the time of registration in Hospital based Registry Programme. All the biopsy proven cases either by FNAC or Biopsy proven were included.

Result: In our study total cases registered 32057 from year 2014 to 2021 6830 patients were registered from age 60 years to 85 years, which were 25.88% of total cancer patients. In year wise distribution 922(8.1%) cases were registered in 2014, 1188 (10.4%) cases in 2015, 1513(13.35%) in 2016, 2258(19.93%) in 2017, 2061 (18.19%) in 2018, 665(5.8%) in 2019,1284(11.33%) cases in 2020,1437 12.8% cases in 2021 were registered in this age group.

Conclusion: Screening and early detection may help to reduce the severity of disease like gallbladder, head and neck carcinoma, carcinoma cervix. Treatment with comorbidities like diabetes, hypertension, chronic obstructive pulmonary disease, low nutritional level are the barriers to provide, curative treatment in this age group of patients.

Keywords: Gerontology; Cancer; Geriatrics; Clinical Profile

Background Information

A person who is of age of 60 years or above defined as elderly or senior citizen, citizen of India. As per maintenance and welfare

of patients and senior citizen Act 2007 [1]. Older population is rapidly increasing in most of the countries. This increase in older population has created new field of medicine "Gerontology".

Geriatric medicine is sub discipline of geriatrics which is deviated to medical care of elderly population: and geriatric oncology is also a sub division of Geriatric medicine [2]. According to the report by Ministry of Statistics and Programme Implementation 2016, 103 Million elderly people are above the age of 60 in India which is about 8.5% of population according to the 2011 data [3]. The estimated population of elderly will be 20% in 2050 reported will be non-profit organization Help Age India, Cancer incidence gradually peaks around 70-80 years and there is sharp decrease about 80 years of age [4-6]. Sub groups are divided by Gerontologist as young old (65-74 years), sub group as young old 65-74 years, middle old 75-84 years, and more than 85 years as very old [7].

In western world age criteria are different, majority of studies taken into consideration 65 years as cut off age. Recent guidelines often accepted 70 years of age as cut off [8]. In our study we have limited our patient with 60 years and above to identify cancer incidence, epidemiology, geographical distribution attended our hospital.

Material and Methods

A retrospective analysis has been done in State Cancer Institute, Indira Gandhi Institute of Medical Sciences, Patna for year 2014 to 2021. Cut-off age was kept as 85 years, at the time of registration in Hospital based Registry Programme. All the biopsy proven cases either by FNAC or Biopsy proven were included. Demographic parameters like age, sex, literacy, performance status, educational Status, socio economic status were analysed.

Results

In our study total cases registered 32057 from year 2014 to 2021 6830 patients were registered from age 60 years to 85 years, which were 25.88% of total cancer patients. In year wise distribution 922(8.1%) cases were registered in 2014, 1188 (10.4%) cases in 2015, 1513(13.35%) in 2016, 2258(19.93%) in 2017, 2061 (18.19%) in 2018, 665(5.8%) in 2019, 1284(11.33%) cases in 2020, 1437 12.8% cases in 2021 were registered in this age group. Age wise distribution according to age in relation with disease there is decreasing incidence of cancer with Increasing age. There were 596 cases in which 12.8% in 60 years age, 10.4% cases in 65 years, 6.6% cases in 70 years age, 2.9% in 75 years of age,

1.6% in 80 years, 0.86% cases in 85 years of age, with a total of 35.16% cases from 2014 to 2021.

Carcinoma gall bladder

In our study a total of 4204 Carcinoma Gall Bladder cases were registered which contributed about 18.8% of the cases. Most common pathology shown adenocarcinoma 99.3%, cholangiocarcinoma 0.6%.

Head and neck carcinoma

In our study total 3395 cases were registered in Head and Neck cancer in which 2752 were males and 643 were females. In which 1287 cases were of elderly age group, which were 40.08% of Head and Neck cancer registered at our hospital.

Lung carcinoma

In our study 2069 cases of Lung Carcinoma were registered which was 5.4% of all the cases registered under Hospital Based Cancer Registry (HBCR), 1118 cases were of elderly age groups, 54% of all lung cancer cases registered. It contributed 14% of geriatric cancer patients. It is reported second commonest cancer in males after Head and neck carcinoma. 58.76% cases were males and 41.23% cases were females. Most common histopathology was adenocarcinoma which constituted of about 89.9%. Squamous Cell carcinoma 5.06%, small cell carcinoma 1.8%.

In our study Total lung carcinoma cases registered were 2069 in which 1118 cases were of elderly age group patients and it was 14.3% cases of elderly age group and 54% of all Lung Cancer Cases and shown decline trend as the age Increases.

Carcinoma cervix

Total 2039 cases of carcinoma cervix were Registered which were 6.5% of total cancer cases. In which 692 (8.8%) cases were registered in this group and shown a decreasing trend as the age increases.

Carcinoma liver

Total cases registered in carcinoma liver were 1572, 4.9% of all cancer cases. In which 671 cases registered in this groups these were 42.68% of all liver cancers 68.23% cases were males 32% were females it contributed 3.6% all elderly group patients.

Common Pathology was Hepatocellular carcinoma 97%, adeno carcinoma 16.5%, Hepatoblastoma 0.4% while National Cancer Registry Programme (NCRP) shows Hepatocellular in 61.8% cases, Hepatoblastoma 5% cases.

Carcinoma breast

In our study total 3392 cases were registered in carcinoma breast in which 643 cases were of elderly age group from 60-85 years shown decreasing trend as age increases. Most of the cases presented at 60-65 years of age in which 19 cases were males and 624 cases were of females. Common pathology was infiltrating duct carcinoma followed by Ductal carcinoma Most cases belonged to Patna, Motihari and Saran.

Carcinoma stomach

Total 1116 cases were registered in carcinoma stomach from 2014 to 2021 which were 3.48% of the Cancer cases. 36.5% of cases registered under elderly age group. 248 cases (60.8%) were Males and 160 cases (39.15%) were females.

Carcinoma prostate

Total cases registered were 467 (1.4%) of all the cancers. In which 377 (80.7%) were elderly patients. In NCRP total 3% cases of all cancers were registered 83.1% were elderly patients.

Carcinoma bone marrow

Total 1023 cases of Carcinoma Bone Marrow were registered from 2014 to 2021, 339 cases were registered, Male: Female ratio was 1.6:1, 303 cases were of multiple myeloma.

Carcinoma colorectal

Total cases of carcinoma colorectal were registered 1028 which was 3.2% of all cancer cases. In which 256 (24.9%) cases registered under this age group and 3.3% of all elderly group cases.

Haematolymphoid

Total 1930 cases of Hematolymphoid were registered from 2014 to 2021, Most common cancer registered in our study was chronic myeloid leukaemia: non-Hodgkin lymphoma was the 2nd commonest and Acute lymphocyte Leukaemia was 3rd, Hodgkins's disease was 4th most common. Male: Female ratio was 1:2.

Carcinoma ovary

Total cases of carcinoma ovary registered were 1103 which were 3.4% of all cancers 229 (20.9%) cases registered under this age group which contributed 2.9% of all elderly group patient's commonest pathology was adenocarcinoma 93.2% and germ cell tumor in 1.4% cases.

Carcinoma pancreas

Total 448 cases of carcinoma pancreas were registered which were 1.39% of all cancers. 185 patients were registered under elderly age groups, 96 were males and 89 were females. Common pathology was adenocarcinoma 98.2%. It contributed 2.3% of all cancers in elderly age group.

Carcinoma kidney

Total 612 cases of carcinoma kidney were registered which 1.9% of all cancer cases 183 (30%) cases were registered under elderly groups patients. 124 cases were males, 59 cases were females. It contributed 2.3% cases of elderly age group.

Brain tumour

543 cases were registered of brain tumor which were 1.7% of cancer cases. At our hospital total 97 cases registered under elderly group patients, 63 were males and 34 were females, common pathology was glioblastoma 59.1%, Astrocytoma 13%, oligodendroglioma in 3.3%, other glioma 10%, Medulloblastoma in 2.2% cases. Total 8333 cases were registered in which (4222) 50.66% were females and 4113 (49.35%) were males. Carcinoma gall bladder was the commonest among the females and Head and Neck was the commonest among the males. Carcinoma Cervix, carcinoma breast, carcinoma lungs were commonest among females. Carcinoma gall bladder, carcinoma liver, carcinoma prostate were commonest among the males.

Discussion

Population ageing is often considered to be the main factor for increase in incidence, death rate, healthcare cost for cancer [9]. Population more than 65 years of age will represent 20% of Population in 2025 in developed countries [10]. Age standardized cancer mortality is now decreasing in all age group specially

Year	Male	Female	Age Group	Age Group	Total
			0-59	60-85+	
2014	1297	1346	1721	922	2643
2015	1821	1809	2442	1188	3630
2016	2060	1989	2536	1513	4049
2017	3309	3060	4111	2258	6369
2018	2661	2464	3064	2061	5125
2019	936	924	1195	665	1860
2020	1859	1979	2554	1284	3838
2021	2289	2254	3106	1437	4543
	n=16232	n=15825	n=20729	n=11328	n=32057

Table 1: Total number of cases registered in Hospital Based Cancer Registry.

Figure 1: Total number of cases registered in all age group.

Rank	Topography	Age Group (0-59)	Relative Proportion	Age Group (60-85+)	Relative Proportion	Total
		n = 16643	%	n = 8298	%	n = 24941
1	Gallbladder	2640	10.6	1564	6.3	4204
2	Head and neck	2108	8.5	1287	5.2	3395
3	Breast	2749	11.0	643	2.6	3392
4	Lung	951	3.8	1118	4.5	2069
5	Cervix	1347	5.4	692	2.8	2039
6	Haematolymphoid	1676	6.7	254	1.0	1930
7	Liver	906	3.6	666	2.7	1572
8	Stomach	708	2.8	408	1.6	1116
9	Ovary	873	3.5	230	0.9	1103
10	Colon- rectum	773	3.1	255	1.0	1028
11	Bone Marrow (MM)	684	2.7	339	1.4	1023
12	Kidney	429	1.7	183	0.7	612
13	Brain	446	1.8	97	0.4	543
14	Prostate	90	0.4	377	1.5	467
15	Pancreas	263	1.1	185	0.7	448

Table 2: List of most common cancers registered between January 2014 and December 2021 in Age Group (0-59) and Age Group (60-85+) descending Orders.

Figure 2: Disease wise distribution of patients with elderly age group.

Year	60-	65-	70-	75-	80-	>85	Total
2014	372	248	164	74	36	28	922
2015	442	342	213	96	66	29	1188
2016	585	439	261	116	76	36	1513
2017	834	642	405	201	103	73	2258
2018	722	625	377	184	98	55	2061
2019	217	211	124	65	31	17	665
2020	483	380	254	93	52	22	1284
2021	459	453	322	130	56	17	1437
Total	4114	3340	2120	959	518	277	11328

Table 3: Number of cases registered for HBCR Year-Wise distribution of total number of patients with age group 60-85+.

Rank	Topography	Age Group						Total
		60-	65-	70-	75-	80-	>85	
1	Gallbladder	569	456	290	204	42	3	1564
2	Head and neck	465	390	224	179	25	4	1287
3	Breast	276	195	93	45	28	6	643
4	Lung	346	299	238	198	28	9	1118
5	Cervix	308	181	107	67	24	5	692
6	Haematolymphoid	96	74	48	21	13	2	254
7	Liver	244	188	150	63	14	7	666
8	Stomach	162	122	75	29	11	9	408
9	Ovary	95	58	42	21	12	2	230
10	Colon- rectum	91	71	53	19	15	6	255
11	Bone Tumour (MM)	91	122	82	23	16	5	339
12	Kidney	62	58	38	13	8	4	183
13	Brain	41	28	19	6	1	2	97
14	Prostate	75	100	87	60	39	16	377
15	Pancreas	52	68	37	17	8	3	185

Table 4: Number of cases registered for HBCR by Topography distribution of total number of patients with age group 60-85+.

Year	>60 Years	Percentage	Male	Female
2014	922	8.1%	522	400
2015	1188	10.4%	588	486
2016	1513	13.35%	890	602
2017	2258	19.93%	1357	901
2018	2061	18.19%	1085	859
2019	664	5.8%	377	270
2020	1284	11.33%	609	620
2021	1437	12.6%	839	588
	11327			

Table 5: Year wise distribution of patients >60 years with male and female distribution.

Sl. No.	Disease	No of Patient	Percentage	Sl. No.	Disease	No of Patient	Percentage
1	Carcinoma Gall bladder	1006	24%	1	Head and Neck Carcinoma	1043	25%
2	Carcinoma Cervix	692	17%	2	Carcinoma Lungs	657	16%
3	Carcinoma Lungs	624	15%	3	Carcinoma Gall bladder	558	14%
4	Carcinoma Breast	461	11%	4	Carcinoma Liver	456	11%
5	Head and Neck Carcinoma	232	6%	5	Carcinoma Prostrate	377	9%
6	Carcinoma Ovary	229	5%	6	Carcinoma Stomach	248	6%
7	Carcinoma Liver	215	5%	7	Colorectum carcinoma	198	5%
8	Haematolymphoid	165	4%	8	Bone Tumour	185	4%
9	Carcinoma Stomach	160	4%	9	Kidney	124	3%
10	Bone Tumour	154	4%	10	Pancreas	96	2%
11	Pancreas	89	2%	11	Haematolymphoid	89	2%
12	Kidney	59	1%	12	Brain tumour	63	2%
13	Colorectum carcinoma	58	1%	13	Carcinoma Breast	19	0%
14	Brain tumour	34	1%				
	Total	4178			Total	4113	

Table 6: Commonest cancer among Males and Females.

Sl. No.	Disease	Illiterate	Literate	After Matric
1	Carcinoma Gall bladder	44.94%	39.96%	15.00%
2	Carcinoma Cervix	44.94%	45.80%	9.20%
3	Carcinoma Lungs	41.94%	50%	8%
4	Carcinoma Breast	31.50%	39.93%	8%
5	Head and Neck Carcinoma	51.98%	39.93%	8.00%
6	Carcinoma Ovary	46.95%	44.78%	8.20%
7	Carcinoma Liver	48.94%	39.93%	11.11%
8	Haematolymphoid	47.63%	39.76%	12.50%
9	Carcinoma Stomach	35.78%	51.96%	7.50%
10	Colorectum carcinoma	41.56%	48.23%	10.19%
11	Prostrate	36.87%	39.25%	14.30%
12	Bone Tumour	48.96%	40.7%	10.3%
13	Pancreas	47.50%	44.32%	8.10%
14	Kidney	38.29%	48.63%	12.56%
15	Brain	40.20%	44.32%	15.40%

Table 7: Type of carcinoma distribution according to literacy.

people older than 70 years in high income countries. In India there is no data available for a decrease in age standardization mortality rate and shows most deaths occur in greater than 70 years. Reason can be defined by higher younger population compared to high income countries [11]. Ageing the process is gradual decrease of functional capacity of any individual due to age relaxed structural changes [12,13]. The age dependent comorbidities like diabetes, heart disease, cancer remains the major cause of morbidity and mortality with increasing age there is lot of changes in DNA like defective DNA repair increased global methylation telomere shortening and altered immune system after prolonged exposure of the body to carcinogens leading to activation of organs [12,14-16]. In USA elderly population above 65 years of age contributes 50% of cancer. In India HBCR registry data of 5 centres shown approximately 20.3% of all cancer contributed by population above 65 years [2].

A retrospective study at a small center in Kerala conducted in 2010-2011, HBCR data shown 761 elderly patients of 70 years and above. Median age was 75 years. In India which 451 were males and 310 patients were females. Head and neck 32.4%, Lungs 23.3%, GIT 23.3% were the commonest site among the males. In females head and neck 31.6%, gynaecological 18.4% and GIT 24.5% were the commonest cancer [17]. In older population in US and in Europe >60% newly diagnosed Cancer and 70% Cancer Related deaths occurs [18].

A retrospective observational study shown the commonest site as Head and neck (28%), Lung (23%), Genitourinary 20%, Gastrointestinal 15% Patients [18]. Data analysed from 5 Indian Hospital Based Registry System (HBCR) shown 20.3% of all malignancy occurs 65 years of age. Our study shown 25.99% cases registered under this age group (65 to 85 Years). Study shown by Patil, *et al.* shown head and neck cancer 32.4%, lung 23.3% and GIT 23.3% were common cancers. In females Head and neck 31.6%, gynaecological cancer 18.4%, GIT 24.5%. In our study Head and neck cancer 25.35%, Carcinoma lung 15.9%, Carcinoma gall bladder 13.56%. Vegetables, Lack of exercise are factors responsible for disease.

Ca Lung 11%, Carcinoma Prostrate (9.1%) in males. In females commonest was Carcinoma gall bladder 23.82%, Carcinoma cervix 16.39%, Carcinoma Lung 14.77%, Carcinoma Breast 10.91%.

Study conducted by Sahay *et al.* show commonest malignancy was Head and neck (32.8%), Lung 23%, Genito urinary 20%, GIT (15%) Goyal, *et al.* shown in their study Carcinoma lung 30.9%, Carcinoma breast and Carcinoma ovary were 9.4% in females Carcinoma Lung 41.3%, Head and Neck 7.4%, Carcinoma gall bladder 6.8% was 3rd commonest in males. In female's carcinoma breast was commonest 25.2%, ca ovary 24%, Ca lung 12.8%. In our study there was an increase in incidence from 2014 to 2018 and after 2021 due to covid 19, there was slight decrease in Registry under this age group.

Due to habit of Tobacco chewing, smoking and drinking habits Head and neck and lung Cancer shown highest incidence in males. Carcinoma gall bladder cancer due to various factors present at our area like high level of metals in water, food habits, low intake of Fruits and Vegetables.

Carcinoma gall bladder

Incidence decreases as the age Increases. In India various epidemiological studies shown its low incidence rate from 0.5 to 1.3/Lakh population in both the sexes. In the North India studies have shown hyper Incidence 9/lakh population [19]. In 4th commonest cause Delhi 6.6/Lakh population. In Jammu it is the 3rd most common cancer after carcinoma cervix and carcinoma breast [20]. It is the most common cause of malignant obstructive Jaundice reported in Lucknow [21]. Gall Bladder Cancer shown its prevalence in Northern Part of Indian Subcontinent, Countries like Pakistan and Bangladesh [22]. National Cancer Registry Programme 2021 Report shown about 31.7% cases were registered within this group from 60-85 years of age, The most common histology shown adenocarcinoma 80.7% cholangiocarcinoma in 2.6% of the cases and Squamous cell carcinoma in 1.4% of the cases [23]. In our study Carcinoma Gall Bladder contributed 18.8% of the cases. Most common pathology shown adenocarcinoma 99.3%, cholangiocarcinoma 0.6%.

Head and neck

In developing countries most common cancer registered are Head and Neck Cancers, due to the habit of tobacco chewing [24]. Half of the cases of geriatric population [25] about 10% of all head and neck cancers are registered in elderly patients in India [26]. Study conducted by Suhag, *et al.* [27] shown about 28% of all the

cases seen in elderly population. In our study total 3395 cases were registered in which 2752 were males and 643 were females. In which 1287 cases were of elderly age group, which were 40.08% of Head and Neck cancer registered at our hospital. The study shown a decreasing trend as age increases from 60 to 85 years of age. Carcinoma Buccal Mucosa was the commonest malignancy among the head and neck cancer in all the age groups. National Cancer Registry Programme shown incidence in elderly population ranges from 35.4%-46.0% in females and 25% to 54.9% in males [23]. Head and Neck cancer squamous cell carcinoma was the most common pathology found in our registry.

Lung carcinoma

In our study 2069 cases were registered which was 5.4% of all the cases registered under HBCR, 1118 cases were of elderly age groups, 54% of all lung cancer cases registered. It contributed 14% of geriatric cancer patients. It is reported second commonest cancer in males after Head and neck carcinoma. 58.76% cases were males and 41.23% cases were females. Most common histopathology was adenocarcinoma which constituted of about 89.9%. Squamous Cell carcinoma 5.06%, small cell carcinoma 1.8%. According to national cancer registry data total 45228 cases were registered which was 7.4% of all cancers. 10833 cases were females and 34395 cases were males which were 10.8% of all male cancers and 3.7% of all female cancers. In elderly age group males contributed 58.7% and females contributed 44.9% of all lung cancer cases, adenocarcinoma was 39.7% cases, squamous cell Carcinoma was 20.4%. Non-small cell carcinoma (NOS) 14.7% and small cell carcinoma 9% [23].

Lung cancer primarily a disease of elderly population less than 0.5% of lung cancer related deaths occur at the age of younger population less than 40 years [28]. H smith pw. Incidence rates rises as age increases and reaches on peak at 85-89 years in males and 80-84 years of age in females [29], Incidence rates are higher in males than females [30]. Risk of lung carcinoma also increases elderly patients due to impairment of immune response led to respiratory tract infections [31]. Risk is bronchial Mucociliary dysfunction due to smoking also increases risk in smokers [32,33].

Carcinoma cervix

Total 2039 cases were Registered which were 6.5% of total cancer cases. In which 692 [8.8%] cases were elderly group patients. Common histopathology shown squamous cell carcinoma

98.7% Adeno carcinoma in 0.5% cases while in NCRP shown squamous cell carcinoma in 89.5% and Adeno carcinoma 5% [23]. According to National Cancer Registry 15.2% cases of all gynecological cancers were registered in which 16.7% of the cases belongs to elderly age group [23].

Carcinoma uterine cervix occur mainly in middle and older age group females [34,35] studies reported incidence of cervical cancer peaks in 4th decade of life. Cervical cancer in elderly patients is increasing in Europe and it accounts more than 40% death annually [36].

Carcinoma liver

Common Pathology was Hepatocellular carcinoma 97%, adeno carcinoma 16.5%, Hepatoblastoma 0.4% while NCRP shows Hepatocellular in 61.8% cases, Hepatoblastoma 5% cases [23].

Worldwide hepatocellular Carcinoma is most frequently diagnosed cancer in elderly patients and it is the 2nd commonest cause of cancer related death, Incidence of Hepatocellular carcinoma is increasing steadily [37]. Long term exposure of Hepatitis B and Hepatitis C virus causes severe damage to liver and liver cirrhosis [38,39].

These are the some of the factors represents as a causative factor of hepatocellular carcinoma. Surgical excision, liver transplantation and percutaneous ablative treatment by Radiofrequency ablation (RFA) or Percutaneous ethanol injection (PES) are some of the procedure currently available for treatment. Palliative treatment including Radio embolization. Transarterial chemo embolization (TACE) and targeted therapy can be offered to patients in advanced stage [40].

Carcinoma breast

Worldwide breast cancer is most frequently diagnosed cancer in females with an estimation of 2.3 million new cases (11.7%) [41]. In India over the last 26 years, Age standardized rate of breast cancer is increased in females 39.1% From 1990 to 2016. In India Breast cancer contributed 13.5% of all cancer cases and 10.6% of all death as per GLOBOCAN 2020 data [42]. A significant increase shown by all population- based registries [43]. Incidence of breast cancer shown by national cancer Registry Program about 12.6% of all breast cancer cases. It shows that breast cancer commonly

occurs at quiet early stage of onset of disease Incidence, Medical facilities in rural area, advanced stage at Presentation, delayed treatment due to delayed diagnosis are some of the factors responsible for poor survived in India [44].

In our study 3392 cases were registered in which 643 cases were of elderly age group from 60-85 years shown decreasing trend as age increases. Most of the cases presented at 60-65 years of age in which 19 cases were males and 624 cases were of females. Common pathology was infiltrating duct carcinoma followed by Ductal carcinoma Most cases belonged to Patna, Motihari and Saran.

Carcinoma stomach

Worldwide it is the 5th common cancer and 3rd most common cause of cancer related mortality [45], Its peak incidence reported in 7th decade of life [46]. Histological intestinal type are common. It occurs more common in men [47-49].

Total 1116 cases were registered from 2014 to 2021 which were 3.48% of the Cancer cases. 36.5% of cases registered under elderly age group. 248 cases (60.8%) were Males and 160 cases (39.15%) were females. According to NCRP 38.5% cases of all Liver cases were registered under this age group, Common histopathology was adenocarcinoma 73.9%, Signet Ring Carcinoma were 10.5% [23].

Prostate carcinoma

In western world it is the most common malignancy in elderly man. It is 2nd leading malignancy worldwide and it is steadily increasing over the last decade [50,51]. Male population over the age of 65 years is expected to increase four-fold. In 2000 population of above 65 years male was 12.4% it is expected to increase to 19.6% by 2030 [50,57]. Probability to develop prostate cancer increases as the age increases from 0.005% in men younger than 39 to 2.2% in males. Age group of 40 to 59 years and 13.7% in males in 60- 79 years life time risk of having prostate carcinoma 1 in 6 males is 16.7%. Age group 70 to years shown 50% histological evidence of malignancy [52-55].

Total cases registered were 467 (1.4%) of all the cancers. In which 377 (80.7%) were elderly patients. In NCRP total 3% cases of all cancers were registered 83.1% were elderly patients. Adenocarcinoma was found in 77% cases, acinar cell carcinoma reported in 15.1% cases [23].

Bone marrow

Total cases registered were 1023 (3.1%) of all cancer cases 339 (33%) patients were elderly age group. It contributed 4.3% cases of elderly age group; 220 cases were male and 119 cases were females. It contributed 4.3% cases of elderly age group.

Total 339 cases were registered, Male: Female ratio was 1.6:1, 303 cases were of multiple myeloma. In 39 cases osteo sarcoma, giant cell tumor, osteogenic sarcoma, chondrosarcoma were reported.

Carcinoma colorectal

Total cases Registered 1028 which was 3.2% of all cancer cases. In which 256 (24.9%) cases registered under this age group and 3.3% of all elderly group cases.

Common pathology was adenocarcinoma in 98.4% cases, adenocarcinoma in 0.4% cases. With some exception steep increase in the incidence shown for most subtype of Leukemia and Lymphoma, Burkett's lymphoma, Leukemia and Hodkins Lymphoma.

In NCRP Carcinoma Colon and Carcinoma Rectum shown 40.4% and 34.3% in elderly age group and adenocarcinoma was commonest pathology in colorectal carcinoma [23]. About 60% of colorectal Patients presented at a early age at the time of diagnosis and 43% are presented after the age of 75 years [56].

Colorectal cancer is the commonest cancer worldwide and its incidence is continuously increasing treatment of colorectal cancers include surgery for early stage (I and II), Surgery followed by adjuvant chemotherapy in Stage III and Chemotherapy for metastatic colorectal cancers [57].

Hemato lymphoid

Total 1930 cases were Registered under this age groups which were 6% of all cancer cases. 254 (13.16%) cases were registered under elderly age group. 165 cases were of Males and 89 cases were of Females. Male: Female ratio was 1.9:1 was Hodgkin's lymphoma. It contributed 3.2% of all elderly cancers.

Haematological Malignancies are grouped into Lymphoma, leukaemia, and multiple myeloma D. These cancers are categorized according to their lineage whether myeloid or lymphoid and cell

maturity in Asia, Majority of lymphoid Malignancies are found in adult aged in younger group 43 to 54 years. Mature T/NK cell and mature B cell cancers occurred in younger age while B cell and T cell lymphoblastic leukaemia and Lymphoma occur in older age group [58,59].

Most common cancer registered in our study was chronic myeloid leukaemia: non-Hodgkin lymphoma was the 2nd commonest and Acute lymphocyte Leukaemia was 3rd, Hodgkins's disease was 4th most common. Male: Female ratio was 1:2.

Carcinoma ovary

Total cases registered were 1103 which were 3.4% of all cancers 229 (20.9%) cases registered under this age group which contributed 2.9% of all elderly group patient's commonest pathology was adenocarcinoma 93.2% and germ cell tumor in 1.4% cases. NCRP registered 6.3% cases of all gynecological cancer and 14.8% of cases registered under elderly age group commonest pathology was epithelial specially adenocarcinoma 77% and germ cell tumor 4.8% [23].

Carcinoma pancreas

Total 448 cases were registered which were 1.39% of all cancers. 185 patients were registered under elderly age groups, 96 were males and 89 were females. Common pathology was adenocarcinoma 98.2%. It contributed 2.3% of all cancers in elderly age group.

Carcinoma kidney

Total 612 cases were registered which 1.9% of all cancer cases 183 (30%) cases were registered under elderly groups patients. 124 cases were males, 59 cases were females. It contributed 2.3% cases of elderly age group.

According to NCRP data 37.8% of kidney cancer cases Registered under this group and it was 2.1% of all cancer cases. Common pathology was renal cell carcinoma nos. in 63.6% cases clear cell renal cell carcinoma in 74% cases [23].

Brain tumors

Benign and malignant central nervous system tumor incidence in general population is 18.16 per 1,00,000 population per year. Incidence in age group of 75 to 84 years, old population is highest among this group 63.75 per 1,00,000 population [60,61].

peak incidence of glioblastoma, Anaplastic astrocytoma, Primary CNS lymphoma in 7th decade, while incidence of glioblastoma meningioma increases with age. In glioblastoma RBCR shown poorer prognosis [62]. Surgery, Chemotherapy, Radiotherapy as a single or in combination can be offered to patients with good general condition. 543 cases were registered which were 1.7% of all cancer cases. Total 97 cases registered under elderly group patients, 63 were males and 34 were females, common pathology was glioblastoma 59.1%, Astrocytoma 13%, oligodendroglioma in 3.3%, other glioma 10%, Medulloblastoma in 2.2% cases, In NCRP 1.6% cases of all cancers were registered in which 16.9% males and 26.9% females registered under elderly patients age group common pathology was glioblastoma 30%, Astrocytoma 23.9%, Glioma 8.1%, Oligodendroglioma in 10.5%, Cases and Medulloblastoma in 8% cases [23].

Conclusion

Screening and early detection may help to reduce the severity of disease like gallbladder, head and neck carcinoma, carcinoma cervix. Treatment with comorbidities like diabetes, hypertension, chronic obstructive pulmonary disease, low nutritional level are the barriers to provide, curative treatment in this age group of patients.

- Total 11328 cases registered in which Males were more as compared to Females we analyzed 15 common cancer and 6830 cases.
- Commonest cancer was Carcinoma Gall Bladder among females followed by Carcinoma Cervix, Carcinoma Lung, Carcinoma Breast and Head and Neck Cancer. Breast cancer are less common among this age group.
- In Males commonest cancer was Head and Neck cancer followed by Carcinoma Lung, Carcinoma Gall Bladder, Carcinoma Liver. These data shown relevance of smoking, tobacco chewing with this cancer.
- Less number of cases were seen in Hematolymphoid, Carcinoma Ovary, Gastrointestinal tumor in comparison to younger age group.
- Incidence of different cancer decreases as age increases.
- Cases are Increasing every year in all age group.
- Literacy Rate shown very low, only 50%-55%.

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