

A STUDY ON THE PATTERN OF CANCERS IN A SEMI URBAN TERTIARY MEDICAL CENTRE LOCATED IN SOUTH INDIA

Oncology

Balasubramanian A*

M.S., M.Ch., Associate Professor, Department of Surgical Oncology, Mahatma Gandhi Medical College and Research Institute, Pondicherry, Sree Balaji Vidyapeeth University, India *Corresponding Author

ABSTRACT

Cancer is a major public health problem affecting populations worldwide. The disease is well known for its Geographic variations at various levels. A retrospective study of Cancer pattern was done in a tertiary care hospital, South India. The cases were grouped according to gender, age and sites of cancer and the findings were presented and compared with existing literature. It was observed that 43.2% of all cancer cases were males and 56.8% were females with a male female ratio of 1:1.3. The commonest age group affected in men and women were 60-69 and 40-49 years respectively. Stomach and Breast were the most common sites of cancer pattern in men and women respectively reported our Institution. Studies that provide an idea about Cancer pattern in a particular area help to plan hospital facilities for patient care and also find the potential areas of clinical and epidemiological research of practical importance.

KEYWORDS

Cancer pattern, Geographic variations, Gender, Anatomical site

Introduction:

Cancer is a major public health problem Worldwide, being a major cause of morbidity and mortality, with approximately 14 million new cases and 8 million cancer-related deaths in 2012, affecting populations in all countries and all regions.¹ The disease is well known for its variations in almost all aspects including differences in Geographic, differences in Topographic, Morphologic and Molecular levels. Geographic variations may be local, regional, national and world regional levels. These variations may be due to various reasons. Apart from the influence of Genetic, Environmental and lifestyle factors, other factors like inadequacy in detection and reporting of cases need to be considered.

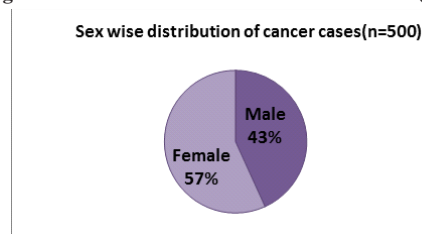
Materials and Methods:

A retrospective study of consecutive 500 Cancer cases was done in a tertiary care medical college Hospital located in South India during the period 2015-17. All cancer cases who reported either for diagnosis or for treatment with surgery and/or radiotherapy and/ or chemotherapy and proved by histopathology were included in the study. The data collected was fed into Microsoft Excel and Descriptive statistical analysis was done. The cases were grouped according to gender, age and sites of cancer. The findings are presented and compared with existing literature.

Results:

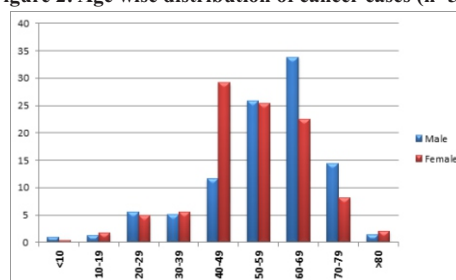
In this Study, of 500 cancer cases, it was observed that 43.2% (n=216) were males and 56.8% (n=284) were females with a male female ratio of 1:1.3. (Figure 1)

Figure 1: Sex wise Distribution of Cancer Cases(n=500)



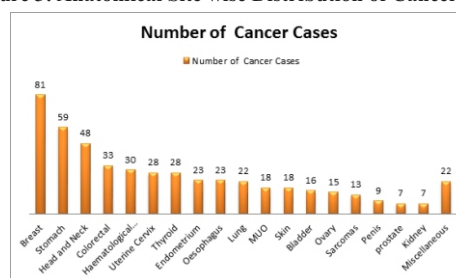
The mean age of men affected was 56 years and a median of 59 years with range 83 (2-85). The commonest age group affected in men was 60-69 years; 33.8% of all cancers among men occurred in that age group, followed by 25.9% in 50-59 years group. It was also observed that 60% of all cancers among men afflicted in the sixth and seventh decades of their life. Among women, the mean age was 51.4 years and a median of 50 years with range 86 (5-91); The commonest age group affected was 40-49 years group with 29.2% followed by 50-59 years age group with 25.4%, of all reported cases in women. 55% of all Cancers afflicted the fifth and sixth decades of their life. When both sexes compared, only 13% of Cancers occurred in the first four decades of life in both males and females. The youngest case in the study was 2 years and the oldest case, 91 years old. (Figure 2)

Figure 2: Age wise distribution of cancer cases (n=500)



Overall, Breast Cancer was the most common Cancer with a frequency of 16.2% (n=81) followed by Stomach 11.8% (n=59). Head and Neck 9.6% (n=48) Colorectal 6.6% (n=33) and Haematological malignancies 6% (n=30) were among the top five common cancers.(Figure 3)

Figure 3: Anatomical Site wise Distribution of Cancer cases



When analysed for sex wise distribution within the affected cancer sites, Stomach Cancer was the most common in men which constituted 17.1% of all Cancers in men (n=37) followed by Head and Neck, Colorectal, Haematological malignancies and Lung. In Women, Breast Cancer was the most common with 28.2% of all Cancers among Women followed by Cervix, Endometrium, Stomach and Thyroid. (Table 1)

Table 1: Site wise Distribution of Cancer Cases with Gender distribution (n= 500)

Cancer	Male	Female	Total	Percentage
Breast	01	80	081	16.2%
Stomach	37	22	059	11.8%
Head and Neck	31	17	048	09.6%
Colorectal	21	12	033	06.6%
Haematological Malignancies	18	12	030	06.0%
Uterine Cervix	-	28	028	05.6%
Thyroid	08	20	028	05.6%
Endometrium	-	23	023	04.6%

Oesophagus	11	12	023	04.6%
Lung	15	07	022	04.4%
MUO	08	10	018	03.6%
Skin	09	09	018	03.6%
Bladder	15	01	016	03.2%
Ovary	-	15	015	03.0%
Sarcomas	08	05	013	02.6%
Penis	09	-	009	01.8%
Prostate	07	-	007	01.4%
Kidney	05	02	007	01.4%
Miscellaneous	13	09	022	04.4%
Total	216 (43.2%)	284 (56.8%)	500	100%

Discussion:

Cancer pattern in a locality is one of the basic measures of cancer burden. Cancer incidence, prevalence and Cancer pattern are used to estimate the current and future health care and social services needs in a particular geographic locality. Actual data on the number of new cancer cases and deaths are always several years out of date due to the time required for collection and compilation of information on newly diagnosed cases and deaths by Population based (PBCRs) and Hospital based (HBCRs) cancer registries. Most cancer registries are regional rather than national, although these vary greatly in coverage. The incidence rates of cancers vary between geographic areas; Cancers like prostate and breast cancer are higher in regions with more economic development due to prevailing screening practices than in regions which are less developed. A similar pattern is seen for tobacco related cancers like lung, larynx and bladder. In contrast, cancers caused predominantly due to infectious agents such as cervix, liver and stomach have higher incidence rates in the less developed regions. The overall risk of developing or dying from cancer varies by age, gender, socioeconomic status, race or ethnicity and geographic location. Observed variations in cancer frequency between places may also be due to differences in healthcare awareness, availability, affordability and accessibility to healthcare facilities and also local customs and practices.

The burdens imposed by cancer vary greatly between regions within India² as per Studies reported in literature. In India, both infection and lifestyle related cancers with an increasing trend for lifestyle related cancers are found. Details of specific cancers documented for the various regions and covering sub populations of India is limited. The substantial variation in cancer rates in India instigates that other risk factors or causative agents that remain to be discovered.

The World Cancer Report 2014 published by International Agency for Research on Cancer has pointed out that the five most common sites of cancer diagnosed in men in 2012 were the lung (16.7%), prostate (15.0%), colorectal (10.0%), stomach (8.5%) and liver (7.5%) and in women, the five most common incident sites of cancer were the breast (25.2%), colorectal (9.2%), lung (8.7%), cervix (7.9%), and stomach (4.8%).¹

A study on Cancer Incidence in the Districts of Dir in Pakistan observed that the most affected age group in females was 41–50, with 8.87% occurrence followed by 51–60, with 6.88%.and in males, it was 51–60 (12.3%), followed by 61–70 (10.32%).³

A study by Cherian T et al⁴ done in a tertiary care hospital in India reported that among the 1,003 cancer cases, 52% were females and males, 48%; The peak incidence was between 41 and 60 (45%). Aggarwal R et al⁵ in a study on pattern of Cancer in a Tertiary Care Hospital in Punjab, India reported that females accounted for 60.9% and males for 39.1% cases with a male female ratio of 1:1.55; The maximum number of patients were seen in 35-64 yr age group (63.5%); Top five leading sites of cancer in males were lung (9.6%), myeloid leukemia (8.3%), prostate (6.8%), mouth (6.1%) and gall bladder (6.0%); and in females, they were breast (35.7%), cervix (19.1%), esophagus (5.1%), myeloid leukemia (4.7%) and gall bladder (3.9%). In a retrospective study of Pattern and trends of cancer in Odisha, India by Hussain MA et al⁶, the proportion of females outnumbered males with female male ratio 1.1:1; Oral cancer (16.93%), acute lymphocytic leukemia / non Hodgkins lymphoma (14.09%) and cancer of gastrointestinal tract (21.07%) were leading cancers among males and carcinomas of breast (28.94%), cervix (23.66%) and ovary (16.11%) were leading cancers among females.

Knowing patterns of cancer across the country would provide important leads in undertaking aetiological research, in targeting cancer control measures and in examining clinical outcomes. But, the patterns of cancer in several urban centres and rural areas remain largely unknown.⁷ The present study provides an idea about Cancer pattern in a particular area so that helps plan hospital facilities for patient care and also finds the potential areas of clinical and epidemiological research of practical importance.

Conclusion:

Heterogeneity and Diversity are the sine qua non of Cancers. There is an extensive geographic heterogeneity among Cancer occurrence Worldwide. Since the need for prevention, screening, early diagnosis and treatment in different areas may be different, there is a need to improve the quality and coverage of cancer registration for better planning, implementation and monitoring of Cancer control policies and programmes. Also, Changing trends in Cancer have to be given its importance and hence need for continuous registering practice. Caution should be taken when interpreting trends over time for cancers worldwide because changes probably also reflect changes in data recording. Data on Cancer patterns are essential for understanding causation and for development of preventive measures. Since, cancer professionals from all disciplines need reliable knowledge on which to act, and the general public has the same need in order to make informed decisions, further epidemiologic studies will be of immense value.

References:

1. Stewart BW, Christopher P. World Cancer Report 2014. Edited by. WILD published by International Agency for Research on Cancer, 2014.
2. Mallath MK, Taylor DG, Badwe RA, Rath GK, Shanta V, Pramesh CS et al., The growing burden of cancer in India: epidemiology and social context. Lancet Oncol 2014.
3. Zeb A, Rasool A, Nasreen S. Cancer Incidence in the Districts of Dir (North West Frontier Province), Pakistan: A Preliminary Study. J Chin Med Assoc 2008;71(2):62-5.
4. Cherian T, Mahadevan P, Chandramathi S, Govindan J, Mathew I L. Increasing cancer incidence in a tertiary care hospital in a developing country, India. Indian journal of Cancer 2015;52(1):133-138.
5. Aggarwal R, Manuja, Aditya K, Singh GPI. Pattern of Cancer in a Tertiary Care Hospital in Malwa Region of Punjab, in Comparison to Other Regions in India. Journal of Clinical and Diagnostic Research. 2015;9(3):XC05-XC07.
6. Hussain MA, Pati S, Swain S, Prusty M, Kadam S, Nayak S. Pattern and trends of cancer in odisha, India: a retrospective study. Asian Pac J Cancer Prev. 2012;13(12):6333-6.
7. ICMR, Development of an Atlas of Cancer in India, A project of national Cancer Registry Programme. Retrieved from <http://www.ncrindia.org/Cancer Atlas India/map.htm> last accessed on 20th October 2017.