



A Clinical Study of Haematological Malignancies in Tirunelveli Medical College Hospital

KEYWORDS

Haematological Malignancy, Types, Distribution, Leukemia

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ABSTRACT **BACKGROUND:** Haematological malignancies are types of cancer that arise from blood forming tissues like bone marrow or from the cells of immune system. Every year, 8 lakhs of new cases are being detected. Cancer deaths are around 5.5 lakhs per year. The present scenario of cancer is alarming **AIMS:** 1. To study the prevalence of types of haematological malignancies 2. To study the sex and age wise distribution of each haematological malignancy. **METHODOLOGY:** This is a retrospective study conducted in the Department of medical oncology, Tirunelveli Medical College Hospital. Data were collected from Medical Oncology Cancer Registry. Total numbers of cancer cases with age and sex wise distribution of haematological malignancies were analysed. **CONCLUSION:** The commonest haematological malignancy was found to be Leukemia. In lymphoma, NonHodgkins lymphoma was the commonest subtype. Registration of cancer cases should be mandatory and public awareness has to be created to fight against this dreadful disease.

INTRODUCTION

Cancer is becoming a major public health concern in India with the number of new cancer cases projected to nearly double within the next 20 years. The developing countries have greater burden of cancer including haematological malignancies due to population overgrowth, aging, urbanization, changing dietary habits and increasing tobacco consumption(1). Cancer prevalence in India is established to be around 2.5 million with over 800,000 new cases and 5, 50,000 deaths occurring each year. Due to lack of much studies relating to the prevalence of haematological malignancies, this study was chosen. India ranks 3rd among the highest number of cases with haematological malignancy according to GLOBOCCON 2012. Among the top 20 cancers affecting the Indian population in 2012, leukaemia ranked at nine with 2.9%. A haematological malignancy arises when something goes wrong in the regulation of the division or the life span of a blood cell or its precursor(2). Leukemia is one of the most frequently occurring cancers in all races or ethnicities with relative proportion varying between 25-40%(3). In recent years, the World Health Organization (WHO) has developed a consensus-based classification in which HMs are basically categorized according to their lineage (myeloid and lymphoid) and cell maturity.

AIM AND OBJECTIVES

- 1.To study the prevalence of haematological malignancies in Tirunelveli Medical College Hospital
2. To study the sex and age wise distribution of **haematological malignancies**.

METHODOLOGY

This is a hospital based retrospective study conducted in the Department of medical oncology, Tirunelveli Medical College Hospital. Ethical committee clearance from the institution was obtained. Data was collected from Medical Oncology Cancer Registry from January 2015 - July 2016. Confirmatory diagnosis was made, based on morphological examination of peripheral blood smear and bone marrow smear.

RESULTS: Total numbers of cases registered were 2,207. Of which, hematological malignancies constitute 145. So the prevalence of this malignancy is 6.5%.

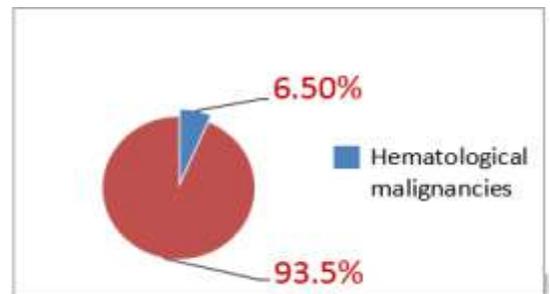


FIG 1: PREVALENCE OF HAEMATOLOGICAL MALIGNANCIES

The most common haematological malignancy was found to be leukaemia (42.7%) which is closely followed by lymphomas (42.06%), and multiple myeloma (12.4%). Chronic forms of leukemia are more common than acute forms. In lymphoma variety ,non Hodgkin's lymphoma was the commonest subtype with 26%

TABLE 1: DISTRIBUTION OF TYPES OF HAEMATOLOGICAL MALIGNANCIES

CANCER	Number	Percentage
NON HODGKINS LYMPHOMA	38	26.20%
CML	36	24.82%
HODGKINS LYMPHOMA	22	15.17%
MULTIPLE MYELOMA	18	12.41%
AML	11	7.58%
ALL	10	6.89%
CLL	5	3.44%
THYMOMA	3	2.06%
MPD	1	0.68%
Coagulopathy	1	0.68%
TOTAL	145	100%

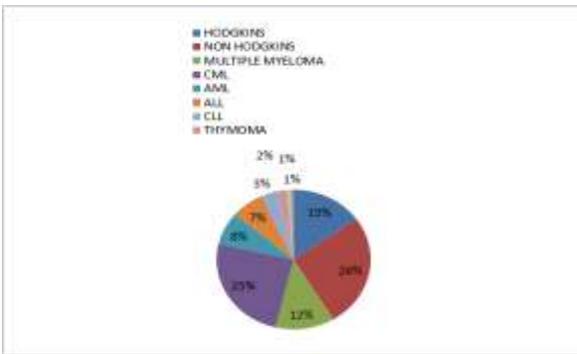


FIGURE 2: DISTRIBUTION OF TYPES OF HAEMATOLOGICAL MALIGNANCIES

SEX WISE DISTRIBUTION:

Except CML variety in all other types male outnumbered females. Particularly Non Hodgkin's lymphoma and multiple myeloma are more common in males. Male female sex ratio is 1.5:1. Chronic forms of leukaemia are more common than acute forms.

TABLE 2: SEXWISE DISTRIBUTION

CANCER	MALE	FEMALE
HODGKINS	14	8
NONHODGKINS	28	10
AML	6	5
ALL	5	5
CML	13	23
CLL	5	0
MULTIPLE MYELOMA	14	4
THYMOMA	2	1
MPD	1	0
Coagulopathy	0	1
TOTAL	88	57

TABLE 3: AGE WISE DISTRIBUTION

TYPE OF MALIGNANCY	0-20 YRS	21-40	41-60	>61
NON HODGKINS	4	8	16	10
CML	1	14	19	2
HODGKINS	5	6	5	6
MULTIPLE MYELOMA	0	0	10	8
AML	3	5	1	2
ALL	5	3	1	1
CLL	0	0	2	3
THYMOMA	2	0	1	0
MPD	0	0	0	1
Coagulopathy	0	0	1	0
TOTAL	20	36	56	33

More number of cases is seen in the age group of 41-60 years.

DISCUSSION

In our study, only reported cases were taken into consideration. Still a lot more cases are there without our notice. Haematological malignancies are common in our country. Different studies have been conducted on various aspects of individual haematological malignancies in the past. Reports revealed that in India all haematological malignancies were highly prevalent in Delhi followed by Mumbai (1). Hansen et al(1983) and Rani et al(1982) and Showme et al(1985) study

showed that chronic forms are more common than acute forms of leukemia which also correlates with our study(4,5,6). A study by Chatterjee et al (1962) showed that commonest type of leukemia is CML (7,8) and male preponderance in hematological malignancies was also shown in previous studies(2,5,8,9). As males are more exposed to the environment due to occupation more malignancies are seen among males(10). Among lymphoid leukaemia ALL was more common (6.89%) than CLL(3.4%). Similar findings have been reported in several previous studies(5,9,11,12,13). However, a markedly high incidence of CLL has been reported by some another studies (4,14,15). This compilation reveals geographic variation in frequency of leukemia. About 10% of cancer occurrence is due to radiation effect both ionizing and non ionizing radiation. This is according to Belpomme et al. According to Anand et al 90% of cancer is owing to environmental contaminants. Indoor environmental pollutants such as volatile organic compounds and pesticides increase the risk of leukaemia and lymphoma. An increased risk of cancer has been observed in people using chlorinated water for drinking purposes for a long time. N-nitroso compounds (mutagenic in nature) are formed from nitrates present in drinking water increase the risk of leukaemia, lymphoma. According to Mehrotra et al the low socio-economic conditions related to poor hygiene, poor diet or infections of viral origin are also responsible for various types of cancers.

Due to overgrowth of Indian population, farmers are forced to produce more cereals and vegetables to meet the increased requirements of people. This pressure made farmers to use excessive fertilizers and pesticides which are being transported into our body via food and water causing various sorts of cancers. Farmers should be encouraged to use eco-friendly organic manures and biocides to reduce cancer incidences. India is a developing country and gradually adopting modern life styles involving the use of various kinds of chemicals in terms of medicines, cosmetics, cloths, utensils, mobile phones and other luxurious items.

CONCLUSION

The commonest haematological malignancy was found to be Leukemia. In lymphoma, non hodgkins lymphoma was the commonest subtype. More number of cases are seen in males. The incidence of haematological malignancies were increasing in both urban and rural areas. Urban cities are industrialized and fairly populated. Socioeconomic status of people is higher and so dietary habits and lifestyle tends to tilt toward Western styles. In rural areas, on the other hand, people are illiterate and unaware about the cancer. So they are presenting in advanced stages with complications. Also cancer registration should be made mandatory.

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