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Oncology

CLINICO- DEMOGRAPHIC PROFILE OF HEMATO-ONCOLOGY PATIENTS VISITING A TERTIARY CANCER CENTRE IN NORTH- EAST INDIA

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ABSTRACT

Background: The pattern and profile of diagnosed hemato-oncological (HO) cancers patients are necessary to understand in order to develop better management strategies.

Methods: Retrospective descriptive study of patients diagnosed with Hematological malignancies between January 2010 and December 2017 visiting Dr B. Borooah cancer institute, Assam The FAB (French-American-British) classification system has been taken into account in the analysis of myeloid and lymphoid neoplasms.

Results: In this study, there were 2598 cases of HO cases registered at BBCI over 8 years with a Male: Female ratio of 2.06:1. Out of these, only 1252 cases were treated. The most common diagnosis was Non Hodgkin lymphoma. Dropout rate was minimum in 2011 and maximum in 2017. Of the treated cases, 45 % of population were alive whereas one fourth of the cases were dead.

Conclusions: The dropout rate of cases are high, which remains a concern and merits effective management plan.

KEYWORDS : Hemato- Oncology, Dropout, Demographic Profile, North east India

INTRODUCTION

Malignancies affecting the Hemato-lymphoid system are a major public health problem. Thomas Hodgkin first described the hematologic malignancy in 1832. Later, in his honour the particular type of lymphoma that he characterized was named Hodgkin disease. Soon it was followed by published descriptions of other hematologic malignancies, such as leukemia and multiple myeloma [1-2]. Various attempts have been made to categorize various subtypes of these malignancies [3]. Hematologic malignancies include a very large number of genetically diverse diseases as understood with the assistance of immunophenotyping and cytogenetic and molecular genetic testing [4].

These are mainly treated with chemotherapy and sometimes require the use of radiotherapy and hematopoietic stem cell transplantation. These cancers have some peculiar features as compared to solid cancers. First, these are highly curable cancers. Secondly, these require intensive chemotherapy regimens and good supportive care.

The management of these malignancies requires a specialized cancer care centre. Also, it is imperative to know the patterns and profile of patients with haematological malignancies, so that better care could be provided. Hence, we tried to analyse the Clinico - demographic profile of hemato- oncology patients coming to Dr B. Borooah Cancer Institute (BBCI).

MATERIALS & METHODS
Study design

This was a retrospective observational study to evaluate the clinico-demographic profile of Hemato- oncology patients who were treated at BBCI from 2010 to 2017.

Participants

. The inclusion criteria included are: 1) Biopsy proven cases of leukemia, lymphoma and multiple myeloma 2) All age groups, 3) Both sexes and 4) information available regarding demography and clinical characteristics. Exclusion criteria included: 1) All solid tumours. This study received approval from the Institutional Ethical Committee.

Data collections

Data were collected retrospectively from hospital based cancer registries, individual medical case notes and electronic patient records including diagnosis, socio economic status, gender, and treatment status. The FAB (French-American-British) classification system has been taken into account in the analysis of myeloid and lymphoid neoplasms [5-7]. This classification was used instead of the 2008 WHO classification because of the lack of immunophenotypic, cytogenetic and molecular data necessary for the 2008 WHO classification.

Statistical methods

Clinical and demographic features were summarized using bar charts, pie charts and tables. Analyses were performed in SPSS 16.0 software.

RESULTS

Between January 2010 – December 2017, 2598 cases of Hemato – oncology were registered at BBCI. The year wise distribution of cases were 193 in 2010, 218 in 2011, 267 in 2012, 279 in 2013, 368 in 2014, 411 in 2015, 419 in 2016 and 443 in 2019 [Figure 1]. Majority of the cases were from rural locality (70%). The median distance travelled to reach hospital was 210 kilometres (20- 600). The average family income was 6000 INR per month (2000- 45000).

Of these 2598 cases, 1751 were males and 847 were females with Male: Female was 2.06: 1 [Figure 2]. The most common diagnosis was Non Hodgkin lymphoma (1312/2598; 51 %) followed by myeloid and lymphoid leukemia [Figure 3].

The drop out cases in year 2010, 2011, 2012, 2013, 2014, 2015, 2016 and 2017 were 89, 69, 109, 81, 236, 237, 241 and 284 respectively [Figure 4]. Of the total 2598 cases over 8 years, 1252 (48 %) patients completed their planned management protocol. Out of these 1252 cases, 568 were alive, 328 were dead and 356 were loss to follow up [Table 1].
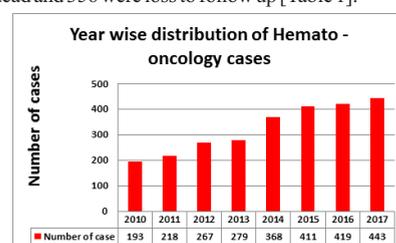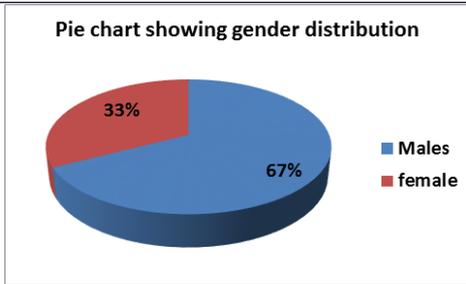

Year wise distribution of Hemato - oncology cases

	2010	2011	2012	2013	2014	2015	2016	2017
Number of case	193	218	267	279	368	411	419	443

Figure 1 : Year wise distribution of Hemato- Oncology cases

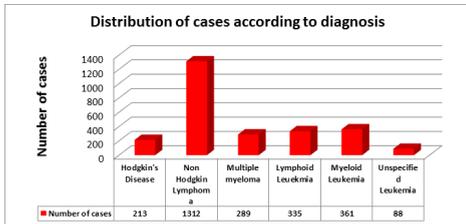**Figure 2: Gender distribution of Hemato- Oncology cases**

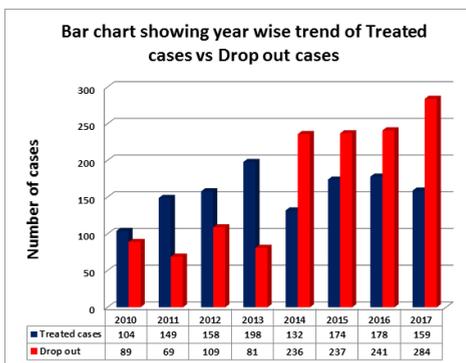**Figure 3: Diagnosis wise distribution of Hemato- Oncology cases**

Figure 4: Year wise distribution of Treated cases vs Drop out cases

Table 1: Survival data of Hemato-Oncology cases

Year	Alive	Death	Unknown	Total Treated Cases	Total Case Registered
2010	35	31	38	104	193
2011	54	49	46	149	218
2012	63	57	38	158	267
2013	48	34	116	198	279
2014	63	46	23	132	368
2015	99	59	16	174	411
2016	93	27	58	178	419
2017	113	25	21	159	443
Total	568	328	356	1252	2598

DISCUSSION

In this study, there were 2598 cases of Hemato- oncology cases registered at BBCI over a period of 8 years with a Male: Female ratio of 2.06:1. Out of these, only 1252 cases were treated. There was a steady increase in number of cases of Hemato-oncology from 2010 to 2017. Majority of the cases were from low socio-economic background. The most common diagnosis was Non Hodgkin lymphoma. There is a substantial drop out rate of cases every year. Dropout rate was minimum in 2011 and maximum in 2017. Of the treated cases, 45 % of population were alive whereas one fourth of the cases were dead.

There has been an increase in number of Hemato –oncology cases reporting to tertiary care centres owing to more awareness among public regarding the disease and improved transportation. Our centre process of being taken over by the department of atomic energy started in 2013 and the takeover was completed on November 2017. Because of this, there were improvement in health care facilities and increased publicity in the local news papers, which might be a potential cause of increased number of cases reporting to our hospital. There was male prepondence in our study which is similar to other studies [8- 10].

The most common diagnosis was Non Hodgkin lymphoma as this includes many subtypes of lymphoma like diffuse large b cell lymphoma, follicular lymphoma, mantle cell lymphoma and various other B and T cell lymphomas, also seen in a study from Moroco [10]. In another study, NHL constitutes 2.7 % of all malignancies which is highest among other Hemato – onology cases [11]. It was followed by myeloid leukemia which includes acute and chronic myeloid leukemia.

The dropout rate was high in our study. Possible reasons are long waiting list, progressive disease, unavailability of 24 hour blood bank facilities, and lack of social support for patients and family while undergoing long intensive treatment and financial constraints [12]. Post 2017, there has been improvement in our lab services, increase in man power, addition of social support by St. Jude foundation and many other support services for the welfare of the cases. It would be interesting to see in future does these ancillary services have helped in better treatment compliance and decrease in dropout rates.

There are certain limitations of our study. First, this is a retrospective study. Secondly, the exact causes of high dropout rate are not documented.

To the best of our knowledge, this is the first study from north east part of India which tried to analyze the patterns and profile of Hemato-oncology cases.

CONCLUSION

Over the years, there has been an increase in number of Hemato-oncology cases. But dropout rate are high, which remains a concern and merits effective management plan which should be conducive to our patient population.

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