

# A Neglected Epidemic? – The first epidemiological data of Haematological malignancy in Northern Tanzania

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## Introduction

Kilimanjaro Christian Medical Centre (KCMC) based in the city of Moshi, Northern Tanzania, serves a catchment population of around 15 million people. In December 2016 recognising the absence of cancer care services to the region, with the nearest services located at the Ocean Road Cancer Institute in the 550 km distant city of Dar Es Salaam, the Cancer Care Centre (CCC) was established becoming one of 3 facilities offering cancer care to Tanzania's 55 million people.

KCMC now harbors one of three cancer registries in Tanzania. Up until the CCCs establishment these databases used to rely mostly on diagnosis made by the respective Pathology Departments, hence haematological malignancies diagnosed by other means including polymerase chain reaction (PCR), karyotyping, flow cytometry and/or blood smear cytology are not well documented. As a result of these shortcomings reliability of haematological cancer data in particular, can be considered as weak (1).

## Methods

We conducted a cross-sectional analysis of all haematological malignancies from the cancer registry of CCC from its establishment in December 2016 until May 2019. Median age at diagnosis and interquartile range (IQR) were calculated for each group, sex ratio and clinical staging were also displayed.

## Results

Age	Hodgkin Lymphoma	Non Hodgkin lymphoma	Multiple Myeloma	AML	ALL	CML
<b>Total (209)</b>	18	92	43	15	17	24
<b>0-14</b>	2	3	0	2	7	2
<b>15-24</b>	7	9	3	2	9	0
<b>25-44</b>	6	21	4	7	0	13
<b>45-64</b>	3	36	25	4	1	9
<b>65+</b>	0	23	11	0	0	0
<b>Median age at diagnosis</b>	23.5	54	58	35	15	42
<b>IQR</b>	10 (18.25-28.25)	25.5 (38-63.5)	13.5 (51.5-65)	21.5 (21-42.5)	13 (4-17)	17.5 (35.5-53)
<b>M:F</b>	2.6:1	1.1:1	1.3:1	1.1:1	1.8:1	2.4:1

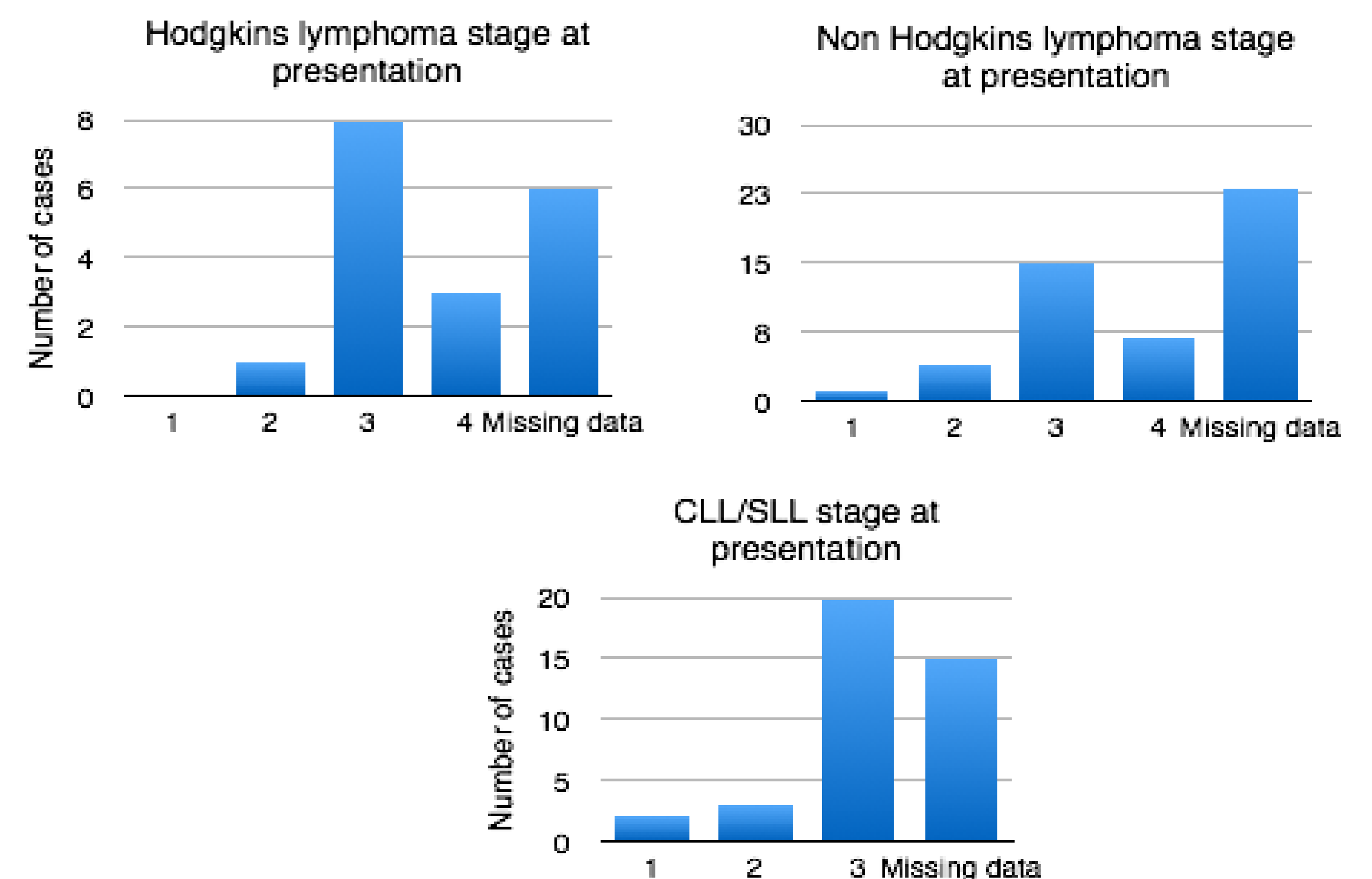


Figure 1: Ann-Arbor staging for Hodgkins and Non-Hodgkins lymphoma cases and Binet stage for CLL/SLL cases at diagnosis

During the report period, 209 cases of haematological malignancies were documented in the cancer registry of the CCC. (Table 1) The most common malignancies seen were NHL and MM accounting for 44% and 20% of cases respectively. 36% of NHL cases, 16% of MM cases and 63% of CML cases were seen in patients under the age of 45. Sexes were almost equally balanced in all NHL groups while clear male predominance was found in HL and CML.

The majority of cases were in stage 3 or 4 (according to Ann-Arbor or Binet classification) at the time of diagnosis (Figure 1).

## Discussion

Haematological malignancies in Northern Tanzania occur generally at a younger age and a higher stage than in Europe or North America (2-4) and it can be assumed that in particular infections play a key role herein, although the specific etiologies are yet to be explored.

Data collection and accurate analysis will aid better understanding of haematological malignancies in the Tanzanian setting and allows better projecting and planning for future strategies to respond to the growing burden of haematological cancer diseases.

## References

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