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A profile of lymphomas and HIV co-infection diagnose at kampala international university teaching hospital, bushenyi western campus uganda

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Abstract

Background Lymphomas are heterogeneous group of lymhoproliferative disorder of the lymphoid tissues. There is paucity and inconsistency of data on the profile of lymphomas and HIV co-infection diagnose at kampala international university teaching, hospital(KIUTH),Bushenyi western campus Uganda. Hence the aim of this study is to determine the the profile of lymphoma and HIV co-infection diagnose at kampala international university teaching. Method: The study is a retrospective study of 23 lymphoma cases diagnosed at KIUTH from august 2013 to September 2023. Datas were retrieved from the cancer registry, hospital records and patients' personal folder The data and results collated were analysed using Microsoft Excel 2016 and IBM SPSS Version 21. The data were analysed using simple inferential statistics (frequencies and percentages), Chi-square test was used to determine associations between categorical variables, and graphical charts were used to present our findings. Ethical approval: Written ethical approval was obtained from the ethics committee of the kampala international university teaching hospitals. Results of the 23 lymphoma cases, Male/female distribution was 1.5/1, with a median age of 44 years diffuse large Bcell lymphoma and nodular sclerosis were the commonest and consititute 17.39%, followed by lymphoblastic lymphoma (13.04%), while burkitt (8.70%) and mixed cellularity (8.70%) were the least. Moreso about 34, 70% were unclassified and only 30.43% were positive for HIV, with no association between the HIV and lymphomas. Conclusion; The study has shown that lymphomas diagnose at kampala international university teaching hospital have variable age distribution patterns and diffuse large B cell is the commonest and not associated with HIV.

Keywords: profile, lymphoma, HIV

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INTRODUCTION

Lymphomas are heterogeneous group of lymphoproliferative disorder of the reticuloendothelial tissues. Lymphomas traditionally, can be classify as either Hodgkin's Lymphoma (HL) or Non-Hodgkin's Lymphoma (NHL), each displaying distinct behavioural, prognostic and epidemiological characteristics, with varying responses to treatment [1]. NHL ranked as the 5th to 9th most common cancer in most countries globally, with an estimated 544,000 new cancer cases and 260,000 cancer deaths in 2020 [2]. While The Hodgkin lymphoma incidence and mortality were 0.98 and 0.26 per 100,000 in 2020 [2]. Hodgkin and Non Hodgkin constitute 5th and 6th common cancers in Africa, Furthermore, the surge of HIV/AIDS, malaria and poverty has contributed to the increase incidence of lymphomas in sub-Sahara Africa [3]. Moreso the lack of facility and manpower has lead to both misdiagnosis and underdiagnosis of lymphoma in developing countries [4]. However Lymphomas in sub-Saharan Africa have been poorly studied, with the exception of Burkitt's lymphoma, but are on the increase. In Uganda, okongo et al reported cancers of the cervix and non-Hodgkin Lymphoma in females, and non-Hodgkin Lymphoma, Kaposi Sarcoma, prostate and liver cancers in men constitute the commonest cancers respectively [5]. Furthermore the Uganda globocan 2020 report shows that Non Hodgkin lymphoma constitute 6.9% of all cancer in Uganda [6]. Hence there is inconsistency and dearth of information on the prevalence of lymphoma in Uganda. Therefore this study aim to determine the profile of lymphomas with HIV infection at Kampala international university teaching hospital bushenyi western campus, Uganda.

MATERIALS AND METHODS

Study design

The study was a retrospective study of the Lymphomas seen at the Kampala international university teaching hospital,bushenyi ,from August 2013 to september 2023.

Study area

The hospital is a 400-bed tertiary health institution that renders specialist care to its host and neighbouring communities. Subject: Those studied consisted of patients diagnosed to have lymphoma at the histopathology department of kampala international university teaching hospital (KIUTH). The Histopathology department is manned by competent clinical staff, consultants, resident doctors, trained nurses and laboratory scientific officers. The diagnoses were made by the Histopathologist on lymph node excision biopsy via histology but not confirmed by immunohistochemistry. In addition, further studies performed on the specimen were cytochemistry.

Selection criteria

Those whose information were retrieved from the cancer registry, hospital records and patients' personal folder were included in the study while those with omission and discrepancy from any part of the archives were excluded from the study.

The data and results collated were analysed using Microsoft Excel 2016 and IBM SPSS Version 21. The data were analysed using simple inferential statistics (frequencies and percentages), the Chi-square test was used to determine associations between categorical variables, and graphical charts were used to present our findings. Ethical approval: Written ethical approval was obtained from the ethics committee of the kampala international university teaching hospitals.

RESULTS

Tab. 1. Showing age distribution, frequency and percentage of leukaemia patients

Demography	Frequency (n=23)	Percentage (%)
SEX		
Male	14	60.87
Female	9	39.13
AGE		
0-9	3	13.04
19-Oct	2	8.7
20-29	5	21.74
30-39	1	4.35
40-49	3	13.04
50-59	2	8.7
60-69	3	13.04
≥ 70	4	17.39

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Tab. 2. Showing HIV status

HIV status	Frequency	Percentage
Positive	7	30.43
Negative	16	69.57
Total	23	100

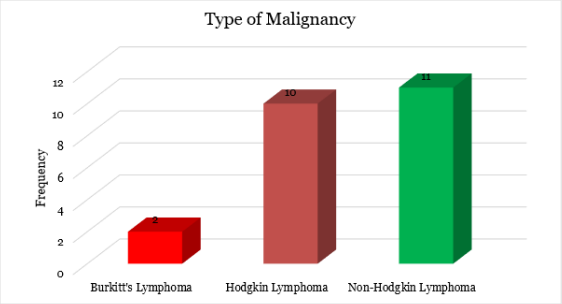

Fig. 1. Showing the frequency of lymphomas distribution

Tab. 3. Association between HIV status and hodgkin/non hodgkin lymphoma

HIV Status	Burkitt's Lymphoma	Hodgkin Lymphoma	Non-Hodgkin Lymphoma	Total	Chi-square
Positive	0	4	3	7	X^2= 1.359
Negative	2	6	8	16	P=0.507
Total	2	10	11	23	

There is no statistical difference in the association between HIV status and the type of lymphomas

Tab. 4. Type of Lymphomas

Lymphoma type	Frequency	Percentage
Burkitt's Lymphoma	2	8.7
Diffuse large cell B	4	17.39
Lymphoblastic type	3	13.04
Mixed cellurarity type	2	8.7
Sclerosis nodular type	4	17.39
Unclassified	8	34.78
Total	23	100

Tab. 5. Association between age and hodgkin/non hodgkin lymphoma

Age Range	Burkitt's Lymphoma	Hodgkin Lymphoma	Non-Hodgkin Lymphoma	Total	Chi-square
0-9	1	0	2	3	X2=16.825 P=0.266
19-Oct	0	1	1	2	
20-29	0	3	2	5	
30-39	0	0	1	1	
40-49	0	1	2	3	
50-59	1	0	1	2	
60-69	0	1	2	3	
≥70	0	4	0	4	
Total	2	10	11	23	

No observable statistical difference in the association between age and the type of lymphoma

Tab. 6. Association between sex and hodgkin/non hodgkin lymphoma

Age Range	Burkitt's Lymphoma	Hodgkin Lymphoma	Non-Hodgkin Lymphoma	Total	Chi-square
Male	1	7	6	14	X^2=0.634
Female	1	3	5	9	P=0.728
Total	2	10	11	23	

There is no statistical difference in the association between sex and the type of lymphoma

DISCUSSIONS

The results of this study shows inconsistency with the available data of lymphomas in relation to age, sex and types in our institution. Lymphomas constitute 11.7% of all malignancies seen during the period of review. This is somewhat similar to the study conducted by kamulegeya *et al* in Uganda which reported a prevalence of 11.40% of only Hodgkin lymphoma, this is slightly higher due to the difference in sample size and prolong duration of study [7]. Another study by okongo *et al* on the incidence of cancer in northern [5]. Uganda reported a prevalence of above 28%, which is higher than ours this can be attributed to a well-established cancer registry and population. This study also reported male preponderance with a ratio of 1.5:1 is similar to the finding by both okongo and kamulegeya et al respectively [5-7]. The mean age in our study is 44 years ± 5 years. This is similar to the finding by Aladily et al in a study on the epidermiology of lymphoma in Jordan [8]. Non Hodgkin lymphoma is said to be the commonest lymphoma with a prevalence of (38.5%), followed by Hodgkin lymphoma (26.09%), and unclassified were (34.78%). This is similar to several studies both in Uganda and outside but most reported a much higher prevalence [7, 8]. This study also reported that among the various forms of both non Hodgkin and Hodgkin lymphomas, diffuse large B-cell and Nodular sclerosis predominate, next is lymphoblastic, mixed cellularity and burkitt lymphomas respectively. This is similar to the finding by okongo and kamulegeya *et al* [5,7]. Furthermore similar finding was also reported by was by oluwasola et al, in a study on a fifteen years review on lymphoma at a tertrary hospital in southwest of Nigeria [9]. However similar study by Aladily et al in jordan reported predominantly Hodgkin lymphoma this variation can be attributed to geographical location [8]. This study also showed that only 30.43% of our lymphomas patients were HIV positive, predominant among Hodgkin lymphomas (17.4%) and shows no association with any forms of lymphomas. This study is similar to the study by moahi in bostwana on HIV and Hodgkin lymphoma surviva, where he found out that Hodgkin lymphoma patients were more with HIV [10]. However,this is at variance with the study by oluwasola *et al* that reported predominantly Non Hodgkin lymphomas this difference can be attributed to different in

study design [9]. Our study show no association between age, sex and lymphomas.

CONCLUSION

The study has shown that lymphomas diagnose at kampala international university teaching hospital have variable age distribution patterns and diffuse large B cell is the commonest with no association with HIV.

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