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Review Article

Head and Neck Lymphomas in Jos University Teaching Hospital Nigeria: - A Five Year Review

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Keywords

Lymphoma, Non -Hodgkin's, Hodgkin's, Head and Neck region.

Abstract

Introduction: Lymphomas are a heterogeneous group of lymphoid tissues traditionally categorized as either Hodgkin's Lymphoma (HL) or Non-Hodgkin's Lymphoma (NHL).The head and neck region is rich in lymphoid tissues, thus a fertile anatomic site for the development of lymphoid proliferative diseases like lymphomas. In the head and neck, malignant lymphomas account for 5% of all malignant neoplasm; NHL is the most common accounting for 75%. The clinical behaviour and manifestations of lymphomas in the head and neck lack specific characteristics that would enable attribution to a specific lymphoma entity without biopsy and histological evidence. **Materials and Methods:** It is a 5 year retrospective study of confirmed histopathological analysis of head and neck lymphomas from 1st January 2017-31st December 2021. Case notes of all histopathologically confirmed head and neck lymphomas were retrieved from the medical records department and also theatre records as supportive data were analysed for age, sex, histological diagnosis, tumour site, duration of symptoms before presentation and treatment modality ;and then discussed. **Results:** The total number of patients seen during the period under review was 1678, 16 patients had histopathologically confirmed lymphomas out of 388 patients with head and neck tumours, thus prevalence of 0.1% and 4.1% of all head and neck tumours. Male-Female ratio of 5:1, age range of 4 to 62 years, mean age of 29 years. Most common tumour site is the cervical region-315; the most frequently seen histological type is the NHL and the most common duration before presentation is over 1 year-50%. All patients had chemotherapy as a treatment modality. **Conclusion:** This study reveals the management challenges of the head and neck lymphomas due to late presentation, financial constraints and ignorance. Health awareness and adequate health insurance policy are needed to cope these problems..

Background

Lymphoma is a cancer that begins in infection fighting cells of the immune system called lymphocytes. These cells are in the lymph nodes, spleen, thymus, bone marrow and other parts of the body. When you have lymphoma, lymphocytes change and grow out of control.

Lymphomas are a heterogeneous group of neoplasms of the lymphoid tissues traditionally categorized 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].

The head and neck region is rich in lymphoid tissue, especially Waldeyer's ring, the thyroid, the salivary glands, and the oral cavity lymphoid tissues and also several chains of regional lymph nodes. The head and neck region are fertile anatomic sites for the development of lymphoproliferative diseases, in which malignant neoplastic mutations occur in normal lymphoid tissue and give rise to lymphomas. In the head and neck, malignant lymphomas account for 5% of all malignant neoplasms. NHL is the most common (frequent) tumour of the head and neck, accounting for 75% of lymphomas in this anatomic region [2].

Several classifications have been developed over the years for lymphomas. The classification currently in use is that of the World Health Organization (WHO) which is based on the principles of the Revised European-American Classification of Lymphoid Neoplasm (REAL) from 1994 [3]. The latest update of the classification was published in two reviews in "Blood" in 2016 [4-6]. The subtype of the lymphomas is defined based on the cell of origin: B-cell lymphomas, T-cell and natural killer-cell lymphomas (T/NK-NHL) and HL [7,8].

HLs frequently involve lymph nodes of the neck and mediastinum, whereas extranodal sites account for only 5% of HLs for example in the tonsils. In contrast, approximately 30% of NHLs show heterogeneous extranodal manifestations, such as in the major salivary glands, paranasal sinuses,

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mandible, maxilla and Waldeyer's ring (largely depending and often characteristic for the specific NHL subtype) [9].

The clinical behaviour and manifestations of lymphomas in the head and neck region usually lack specific characteristics that would enable attribution to a specific lymphoma entity without biopsy and histological evidence. In particular, with regard to lymphomas having an aggressive course, immediate histological evidence is crucial for early patient management and thus favourable outcome [10,11].

Materials and methods

This was a five year retrospective study of all confirmed histopathological analysis of head and neck lymphomas from January 1st 2017 to 31st December 2021. Case notes of all histopathologically confirmed head and neck lymphomas were retrieved from medical records of the Jos University Teaching Hospital; Plateau State, Nigeria; records from the theatre were further retrieved to support the data. The age, sex, histopathological diagnosis, site of primary tumour, duration of symptoms before presentation were extracted and treatment modality were looked at in this study. Data was collected, analysed using SPSS version 26 and presented using frequencies and percentages.

Categorical data were expressed as percentages, mean, mode and standard deviation and simple tables were used to illustrate the data.

Results

Demographic characteristics

The total number of patients seen in the ENT department of the Jos University Teaching Hospital within the period under review was 1678 and 16 patients with histopathologically confirmed lymphomas out of 388 patients with head and neck tumours giving a prevalence of 0.1% and 4.1% of head and neck tumours. There were 11 males (69%) and 5 females (31%) with M: F ratio of 5:1 and an age range of 4 years to 62 years with a mean age of 29 years, mode of 5years and standard deviation of 20.

Tumour site distributions

The neck (cervical) lymph node enlargement recorded the highest number of involvement with 5 patients (31%), followed by sinonasal tract with 3 patients (18%), oropharynx with 3 patients (18%), the nasopharynx, the mandibular region with 2 patients (12.5%) each and the oral cavity with 1 patient (6%). (Table 2)

Histopathological types

The most common histopathological type was NHL in 9 patients (56.25%), HL 5 patients (31.25%) and Burkitt's lymphoma 2 patients (12.50%) (Table 3).

Duration of symptoms before presentation

Less than 6 months accounted for 2 patients (12.5%), between 6 months to 1 year- 6 patients (37.5%), and greater than 1 year – 8 patients (50%) which means most of the patients presented late (Table 4).

Treatment modality

All the patients had chemotherapy for treatment after biopsy for histopathological diagnosis. The patient who had Burkitts lymphoma however presented with upper airway obstruction necessitating an emergency tracheostomy before chemotherapy.

Immunohistochemistry was necessary but only one of them could afford it due to financial constraints, this also affected the entire treatment as well. 11 patients (69%) were lost to follow up between 6 months -30 months after treatment and 2 of the patients who presented late were lost to death.

Table 1. *Age distribution of cases.*

Age (years)	Frequency	Percentage (%)
1 – 10	5	31
11 – 20	0	0
21 – 30	4	25
31 – 40	1	6
41 – 50	3	19
51 – 60	2	13
61 – 70	1	6
Total	16	100%

Table 2. *Tumour site distributions.*

Tumour Site	Frequency	Percentage (%)
Sinonasal tract	3	19
Nasopharynx	2	12.5
Oropharynx	3	19
Mandible	2	12.5
Cervical	5	31
Oral cavity(hard palate)	1	6
Total	16	100%

Table 3. *Histological types.*

Histological Type	Frequency	Percentage (%)
Non Hiolgkim Lymphoma	9	56.25
Hodgkin Lymphoma	5	31.25
Burkitts Lymphoma	2	12.50
Total	16	100%

Table 4. Symptoms duration before presentation

Symptoms Duration before presentation	Frequency	Percentage (%)
Less than 6 months	2	12.5
6 months to 1 year	6	37.5
More than 1 year	8	50
Total	16	100

Discussion

This study revealed the prevalence of head and neck lymphomas in the Jos University Teaching Hospital, Nigeria to be 0.1% which also represent 4.1% of the head and neck tumours. The prevalence in this study is lower than what was found in the study by Oluwasola, et al. of 0.7% of surgical biopsies during a 15 year review of lymphomas in University College Hospital, Ibadan most probably due to the duration of the study and the sample size [12].

There were 11 males (69%) and 5 females (31%) in this study with a male female ratio of M:F=5:1. The male preponderance in this study is similar to that found by Shamloo, et al. in a study of head and neck lymphomas in an Iranian population [13].

This study shows that the paediatric age group of 1- 10 years was the most affected 5 patients (31%) (Table 1), which is in keeping with the findings by Roh, et al. in Seoul, South Korea for lymphomas of the Head and Neck in a paediatric population [15].

This study revealed cervical lymph node involvement to be the most common anatomic site (31%) (Table 2), thou higher but similar to the findings of 23% by Alli, et al. in Johannesburg, South Africa in a 20 year review of head and lymphomas [14].

The histological type most commonly seen in this study is the Non Hodgkin Lymphoma 9 patients (56.25%) followed by Hodgkin Lymphoma 5 patients (31.25%) (Table 3).

The duration of symptoms before presentation was commonly late, 8 patients (50%) more than 1 year and followed by 6 patients (37.5%) 6 months to 1 year (Table 4), thus reflecting in the treatment outcome.

Majority of the patients 11(69%)were lost to follow-up, may be they did well after the treatment thus saw no reason to continue the follow-up as is usually the case with patients in our environment mostly due to financial constraint or they would have succumbed to death. This can be mitigated if government can handle health as a pure social responsibility to the people with complete health insurance cover; this will then ensure compliance with early, regular hospital visits and better treatment outcome.

Conclusion

This study has revealed some challenges facing clinicians in the management of head and neck lymphomas like late presentation, financial constraints most probably due to lack of health insurance policy in our environment and or ignorance. In the light of this, health awareness as regards this disease and may be government ensuring the availability of health insurance policy to ensure proper health coverage for the people in our environment. This will then ensure early presentation and better treatment outcome of this disease condition..

Conflict of interest

Authors declared no conflict of interest..

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