CAUSES OF DEATH IN PATIENTS WITH DIFFUSE LARGE B-CELL LYMPHOMA IN ARMENIA

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INTRODUCTION

Diffuse large B-cell lymphoma (DLBCL) is a type of cancer where most patients can attain complete remission (CR) through suitable therapy. In particular, patients treated with R-CHOP have shown promising results, with a significant proportion achieving CR and maintaining progression-free status for up to 5 years. Consequently, in the developed world, mortality rates among DLBCL patients have witnessed a decline owing to advancements in treatment approaches. However, the situation in the developing world presents a contrasting reality. In this work, we aim to shed light on the state of DLBCL in Armenia and draw attention to the substantial disparities that profoundly impact the treatment outcomes for affected individuals. By exploring the specific challenges faced in this setting, we hope to raise awareness and contribute to the global efforts in addressing the disparities in DLBCL management.

AIM

The aim of this article is to conduct a comprehensive analysis of the immediate and contributing causes of death among patients diagnosed with DLBCL in Armenia.

METHOD

Medical records of all deceased adult patients diagnosed with diffuse large B-cell lymphoma (DLBCL) at the Hematology Center of Armenia between January 1, 2010, and December 31, 2022, were included in this analysis. The following data points were extracted and analyzed from the records: age at diagnosis, gender, anatomical location of DLBCL, socioeconomic demographics (including rural and urban places), treatment protocols administered, documented side effects, viral characteristics (if available), and survival information.

To ascertain the dates of death, we obtained the necessary information from the United Information System of Electronic Healthcare in the Republic of Armenia.

RESULTS

During the twelve-year study period, a total of 391 patients were diagnosed with DLBCL. The median age at the time of diagnosis was 59.3 years, ranging from 21 to 82. Among the diagnosed patients, 43.2% (n=51) were female. The majority of patients, 68.5%, were classified as stage IV at the time of diagnosis. Among the patient cohort, 30% (n=118) succumbed to various causes. Of these deaths, 22.9% (n=27) occurred prior to the initiation of chemotherapy. Notably, within this group, 44.4% (n=12) of patients refused treatment altogether. Furthermore, 4 patients died from COVID-19 complications, and 1 patient passed away due to complications after childbirth. Of the remaining patients, 77.1% (n=91) received chemotherapy. Within this subset, 55.6% (n=50) underwent rituximab-like therapy, such as R-CHOP or RB. On the other hand, 24.2% (n=22) of patients showed resistance to the initial line of therapy and opted against further treatment. For 21 patients (23.1%), it was challenging to ascertain the development of remission or the cause **of death.**

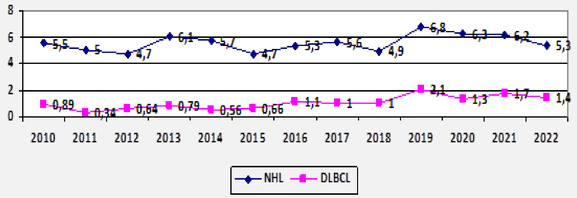


Figure 1. Incidence rates of NHL and DLBCL during 2010-2022 per 100 000 population

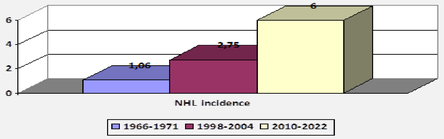


Fig. 2. Comparison of incidence rates of NHL for 2010-2022, 1998-2004, and 1966-1971.

Table 1 Demographic and clinical characteristics of enrolled patients

Characteristics	Classification	N (%)
Age (years)	>55	137 (35%)
	≤55	254 (65%)
Gender	Male	201 (51.4%)
	Female	190 (48.6%)
B symptoms	Absent	250 (64%)
	Present	140 (36%)
LDH	High	219 (56%)
	Normal	172 (44%)
ECOG score	0–1	316 (81%)
	2–4	74 (19%)
Ann Arbor stage	I–II	87 (22.3%)
	III–IV	304 (77.7%)
Extra nodal disease	>1	85 (21.8%)
	≤1	306 (78.2%)
IPI	Low risk [0–1]	149 (38)
	Low-intermediate risk [2]	117 (30)
	High-intermediate risk [3]	125 (32)

CONCLUSIONS

In our analyzed cohort of patients with DLBCL, a concerning finding was that 44.4% of all patients refused treatment, with nearly half of them not even initiating therapy. It is important to highlight that in some cases, patients were unaware of their diagnosis due to the stigma surrounding cancer, and decisions regarding treatment were made by their relatives. Moreover, the high rates of treatment abandonment can be attributed to a variety of factors, primarily financial and social challenges. The findings underscore the urgent need for addressing the barriers that contribute to treatment refusal and abandonment in DLBCL patients. Efforts should be focused on increasing awareness and education about cancer, reducing the stigma associated with the disease, and providing financial and social support systems to alleviate the burden on patients and their families.

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