Clinical characteristics and outcomes in Human immunodeficiency virus - associated lymphomas: A retrospective Study

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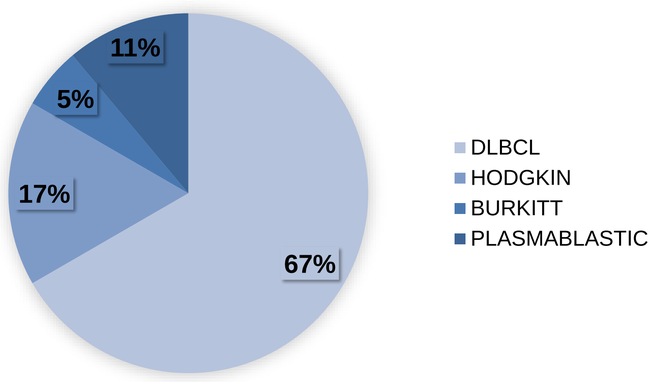
INTRUDUCTION

HIV infection significantly increases the risk of developing aggressive lymphomas, primarily as a consequence of severe immunosuppression associated with low CD4+ T-cell counts and uncontrolled HIV-1 viral replication. Despite the survival benefits conferred by combination antiretroviral therapy (cART), the prognosis of AIDS-related lymphomas (ARL) remains unsatisfactory. The management of HIV-positive lymphoma patients is further challenged by chemotherapy-related toxicities, such as prolonged neutropenia and increased vulnerability to opportunistic infections, which frequently necessitate treatment modifications and drug interaction. These clinical obstacles underscore the need for integrated multidisciplinary management, and the development of novel therapeutic strategies to improve outcomes in this high-risk population.

RESULTS

Methods: A retrospective medical record review of 18 patients treated for ARL in Department of Hematology at University Hospital in Krakow (2012–2025) was completed to analyze clinical features, laboratory data, treatment protocols, adverse events, and outcome. Median age was 39,5 years (range 26-61), with a pronounced male predominance (M:F=14:4).

Fig, 1 LYMPHOMA TYPES



LYMPHOMA STAGES

Lugano Staging	IPI Score
II 1/18 (5,6%)	0-1; 3/18 (16,7%)
III 2/18 (11,1%)	2-3; 9/18
IV 15/18 (83,3%)	4-5; 5/18
B-SYMPTOMS 4/18 (22,2%)	

Tab. 1 HIV Infection Profile in the Analyzed Cohort

	N=18
CDS staging	A1 2/18 (11,1%), A2 3/18(1,7%), A3 1/18 (5,6%), B1, B2 1/18 (5,6%), B3, C1, C2 2/18 (11,1%), C3 9/18 (50,0%)
CD4+ T-cells at lymphoma diagnosis, median (range)	213,5 (5,0-800,0)
HIV-RNA detection at lymphoma diagnosis, median (range)	4,1x10^4 copies/mL (0,0-2,9x10^6)
Mode of HIV transmission	MSM 6/18 (33,3%) ; HET 1/18 (5,6%); 11/18 (61,1%)
Time from HIV to lymphoma diagnosis, median (range)	1,0 month (0,0-100,0)
HIV and lymphoma concurrently diagnosed	12/18 (66,7%)

Autologous stem cell transplantation
4/18 (22,2%)

Overall Survival Median
26,0 month (0,0-94,0)

Death
7/18 (38,9%)
· progression disease (71,4%)
· infection (14,3%)
· hemophagocytic lymphohistiocytosis (14,3%)

Fig. 2 The figure below illustrates treatment and treatment response (*RTX)

DLBCL (12/18)
- CHOP* 7/12 (58,3%)
- (DA)EPOCH*3/12 (25,0%)
- HYPER-CVAD* 1/12 (8.3%)
- CSN prophylaxis 8/12 (66,7%)

→ CR 7/12 (58,3%), PR 1/12 (8,3%), NR 3/12 (25,0%)

HL (3/18)
- 3/3ABVD (100,0%)

→ CR 2/3 (66,7%), NR 1/3(33,3%)

BL (1/18)
- 1/1 CHOP (100,0%)
- CSN prophylaxis 1/1 (100,0%)

→ CR 1/1 (100,0%)

PBL (2/18)
- (DA)EPOCH* 2/2 (100,0%)
- CSN prophylaxis 1/2 (50,0%)

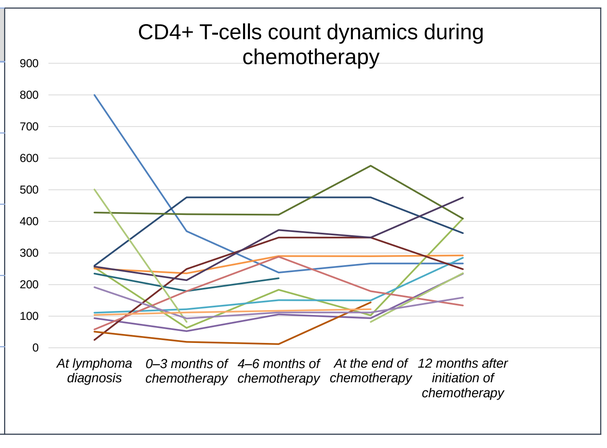
→ NR 2/2 (100,0%)

Tab. 2 Adverse events reported (CTCAE)

	0	1	2	3	4	5
LEUKOPENIA	11,1%	-	5,6%	44,4%	27,8%	5,6%
THROMBOPENIA	22,2%	22,2%	5,6%	33,3%	11,1%	-
ANEMIA	22,2%	11,1%	27,8%	27,8%	5,6%	-
PERIPHERAL NEUROPATHY	66,7%	5,6%	16,7%	5,%	-	-
LIVER TOXICITY	33,3%	22,2%	33,3%	5,6%	-	-
PULMUNARY TOXICITY	77,8%	-	11,1%	5,6%	-	-
CARDIAC TOXICITY	88,9%	-	5,6%	-	-	-
MUCOSITIS	16,7%	50,0%	11,1%	16,7%	-	-
INFECTION	11,1%	22,2%	27,8%	22,2%	5,6%	5,6%

Tab.3 CD4+ T-cells count dynamics during chemotherapy

	N=18 median (range)
At lymphoma diagnosis	213,5 (5,0-800,0)
0–3 months of chemotherapy	179,0 (18,8-476,1)
4–6 months of chemotherapy	229,0 (11,8-476)
At the end of chemotherapy	150,0 (5,0-576,0)
12 months after initiation of chemotherapy	284,8 (134,0-475,0)



CONCLUSION

HIV-associated lymphomas continue to represent a significant clinical challenge, with overall outcomes remaining unsatisfactory despite advances in both combination antiretroviral therapy and modern hematologic treatment strategies.

- The predominant subtype of (ARL) is DLBCL.
- In this patient group, CNS prophylaxis was administered more frequently than in the HIV-negative population.
- The prognosis for patients diagnosed with (PBL) is particularly poor.
- Severe infectious complications (grade 4 and 5 according to CTCAE) occurred in 11.2% of patients.
- In the study group, 38.9% of patients died, with disease progression being the most common cause of death.

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