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ELEVENTH ANNUAL MEETING

TREATMENT OUTCOMES OF PATIENTS WITH HIV-ASSOCIATED HIGH-GRADE B-CELL NON-HODGKIN LYMPHOMAS TREATED WITH DA-EPOCH-R: SINGLE INSTITUTIONAL EXPERIENCE.

Caleb Good, PharmD1; Diana Martinez, PharmD, BCOP2,3; Caroline Hana, MD3; Damaal Walker, PharmD, BCPS, BCOP1; Matthew Villanueva, PharmD, BCOP1; Robert Wilkinson, PharmD, BCPS, BCOP, BCIDP2,3; Fernando M Vargas Madueno, MD3; Jose Sandoval Sus, MD, FACP3

1Department of Pharmacy, Memorial Cancer Institute, Pembroke Pines, FL; 2Department of Pharmacy, Memorial Hospital West, Pembroke Pines, FL; 3Department of Malignant Hematology & Cellular Therapy, Moffitt Cancer Center at Memorial Healthcare System, Pembroke Pines, FL

MOFFITT
Malignant Hematology & Cellular Therapy
at
Memorial Healthcare System

INTRODUCTION

- Patients living with HIV are at risk for high grade B-cell non-Hodgkin lymphoma (HGBL) and are often excluded from pivotal phase III randomized controlled trials.[1]
- Historically, they were treated with a modified version of dose-adjusted etoposide, prednisone, vincristine, cyclophosphamide, doxorubicin and rituximab (DA-EPOCH-R) based on prospective trials.[1]
- Recently, such patients were treated with standard DA-EPOCH-R without concerns for toxicity compared to non-HIV patients.[2]

AIM

Assess efficacy and safety of DA-EPOCH-R with standard dose escalations compared to HIV dose escalations in patients with HIV associated HGBL

METHOD

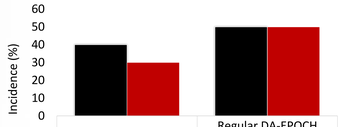
- This is a retrospective review of adult patients with HIV associated HGBL treated with DA-EPOCH-R at Moffitt/Memorial Healthcare System from July 2010 to October 2022.
- The primary outcome is the incidence of febrile neutropenia (FN) and grade 3-4 infections.
- The secondary outcomes include other predefined chemotherapy-related toxicities, hospitalization, overall response rate (ORR), and overall survival (OS).
- Descriptive and analytical statistical tests were performed using SPSS 28®. Times.
- OS was analyzed using Kaplan-Meier method.

RESULTS

Characteristics		HIV -DA (n=10)	Regular -DA (n=6)
Age, median [IQR]		52 [46-61]	51.5 [36-64]
Male Sex, n (%)		8 (80)	3 (50)
Race, n (%)	White Black	3 (30) 7 (70)	0 (0) 6 (100)
ECOG, n (%)	0-1 2-3	7 (70) 3 (30)	5 (83.3) 1 (16.7)
Lymphoma Type, n (%)	DLBCL Burkitt's lymphoma	9 (90) 1 (10)	4 (66.7) 2 (33.3)
Cell of Origin - DLBCL, n (%)	GCB Non-GCB	6 (66.7) 3 (33.3)	4(100) 0 (0)
Ann Arbor Staging, n (%)	Stage I-II Stage III-IV	2 (20) 8 (80)	1 (16.7) 5 (83.3)
Pathological Features, n (%)	BCL2, MYC expression MYC rearrangement (Re) MYC, BCL2 rearrangement MYC, BCL6 rearrangement MYC, BCL2, BCL6 rearrangement	1 (10) 1 (10) 0 (0) 1 (10) 0 (0)	1 (16.7) 2 (33.3) 0 (0) 0 (0) 0 (0)
NCCN-IPI, n (%)	0-1 2-3 4-5 6-8	1 (10) 1 (10) 5 (50) 3 (30)	1 (16.7) 3 (50) 1 (16.7) 1 (16.7)
CNS-IPI, n (%)	0-1 2-3 4-6	2 (20) 5 (50) 3 (30)	0 (0) 4 (66.7) 2 (33.3)
Bone Marrow Involvement, n (%)		1 (10)	2 (33.3)
CNS Involvement, n (%)		1 (10)	0 (0)
CD4 Count (cells/mm^3), median [IQR]		99.5 [55-126]	354.5 [292-727]
ART Therapy, n (%)	B/FTC/TAF[1] Other Regimens[2] None	4 (40) 4 (40) 2 (20)	2 (33.3) 3 (50) 1 (16.7)

Footnotes:
1.B/FTC/TAF: bictegravir/emtricitabine/tenofovir alafenamide
2.Other Regimens: RAL/FTC/TDF = raltegravir/emtricitabine/tenofovir disoproxil fumarate; DRV/COBI/FTC/TAF = darunavir/cobicistat/emtricitabine/tenofovir alafenamide; DTG/TAF/FTC/DRV/r = dolutegravir/ tenofovir alafenamide/emtricitabine/darunavir/ritonavir; DOR/DTG = doravirine/dolutegravir; ABC/DTG/3TC = abacavir/dolutegravir/lamivudine; DTG/DRV = dolutegravir/darunavir

Figure 1. Incidence of Grade ≥3 Infections and FN



	HIV DA-EPOCH ± R	Regular DA-EPOCH ± R	
Grade ≥3 infections	40	50	p=0.261
Febrile neutropenia	30	50	p= 0.081

Table 2. Safety Outcomes

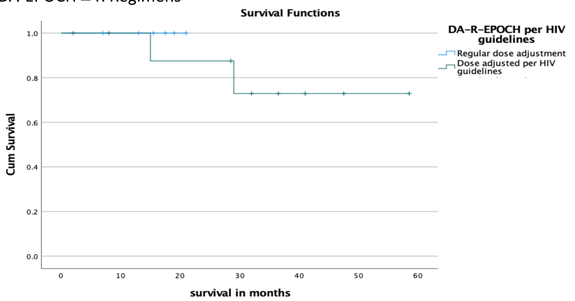
Outcome, n (%)	Cohort 1 (n=10)	Cohort 2 (n=6)	p-value
Mucositis (Any grade)	4 (40)	5 (83.3)	0.116
Peripheral neuropathy (Any grade)	4 (40)	5 (83.3)	0.143
Serious bleeding[1]	2 (20)	2 (33.3)	0.685
Thrombocytopenia < 25,000/µL	4 (40)	4 (66.7)	1
Venous thromboembolism[2]	1 (10)	0 (0)	1

Footnotes:
1. Serious bleeding: Intraspinal, intraocular, retroperitoneal, pericardial, intra-articular, intra-muscular with compartment syndrome, or fatal bleeding; or intracranial hemorrhage including intracerebral, subarachnoid, and subdural bleeds
2. Venous thromboembolism: Deep vein thrombosis confirmed by duplex ultrasonography, venography, or MRI OR pulmonary embolism confirmed by CT or MRI

Table 3. Overall Survival and Response Rate

	Cohort 1 (n=10)	Cohort 2 (n=6)	p-value
OS (months), mean [range]	29.9 [2-59]	15.5 [7-21]	0.48
ORR, n (%)	7 (70)	6 (100)	0.25

Figure 2. Overall Survival Comparison for Regular DA-EPOCH±R and HIV DA-EPOCH ± R Regimens



DISCUSSION

- Our small retrospective cohort suggests that standard DA-EPOCH-R is safe in treating HIV-associated HGBL with similar toxicity profile as HIV-modified DA-EPOCH-R.
- The effectiveness between cohorts is challenging to assess given the small sample size. Outcomes could be influenced by baseline patient characteristics such as CD4 count, cell of origin, ART, IPI, CNS involvement, etc.
- Despite of a trend towards better OS in the HIV dosing group, the 3 relapses occurred only in that group.

CONCLUSIONS

- The standard DA-EPOCH-R is safe in treating HIV associated HGBL, however, larger cohort studies and real-world data of these patients -which have been systematically excluded from large prospective randomized trials- are needed to further validate these results.

REFERENCES

1. Sparano JA, Lee JY, Kaplan LD, et al. Rituximab plus concurrent infusional EPOCH chemotherapy is highly effective in HIV-associated B-cell non-Hodgkin lymphoma. Blood 2010;115(15):3008-16. doi: 10.1182/blood-2009-08-231613 [published Online First: 2009/12/22]

2. Roschewski M, Dunleavy K, Abramson JS, et al. Multicenter Study of Risk-Adapted Therapy With Dose-Adjusted EPOCH-R in Adults With Untreated Burkitt Lymphoma. J Clin Oncol 2020;38(22):2519-29. doi: 10.1200/jco.20.00303 [published Online First: 2020/05/27]

CONTACT INFORMATION

Caroline Hana
Cell: +1(561) 628-2165
Email: caroline_kamal@yahoo.com
Linkedin: Caroline Kamal