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R-CHOP Versus R-DAEPOCH for Patients With Newly Diagnosed Double-Expressor Lymphoma

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INTRODUCTION

Double-expressor lymphoma (DEL), accounting for 20-30 % of all DLBCL is a highly aggressive subtype that is frequently treated with intensified protocols. [1]
The degree of benefit with treatment intensification is unclear.

METHODS

- This retrospective study analyzes outcomes in patients with DEL who were treated with either R-CHOP or R-DAEPOCH between January 2016 and October 2023.
- DEL was defined as expression **of MYC ≥40% and BCL2 ≥50%** by immunohistochemistry (IHC).
- As FISH was not done, double hit status could not be ascertained.
- 245 patients were diagnosed with DEL, of whom **118** initiated chemotherapy at our institution.
- **75 were treated with R-CHOP**, and **43 were treated with R-DAEPOCH** (Physician discretion based on performance).

RESULTS

Table 1 Baseline characteristics

	Total n=118, n (%)/ Median (Range) /Mean ± SD	R CHOP n= 75, n (%)/Median (Range)/ Mean ± SD	R DA Epoch n=43, n (%)/Median (Range)/ Mean ± SD
Mean Age	48.7 ± 12.9	50.5 ± 13.4	45.4 ± 11.5
Male Sex	82 (69.5%)	52 (69.3%)	30 (69.8%)
HIV Positive	4 (3.3%)	3 (4.0%)	1 (2.3%)
Cell of origin	N = 110	N =73	N =37
GCB	36 (32.7%)	22 (30.1%)	14 (37.8%)
Non-GCB	74 (67.3%)	51 (69.9%)	23 (62.2%)
Ann Arbor stage			
I	14 (11.9%)	11 (14.7%)	3 (7.0%)
II	28 (23.7%)	18 (24.0%)	10 (23.3%)
III	28 (23.7%)	18 (24.0%)	10 (23.3%)
IV	48 (40.7%)	28 (37.3%)	20 (46.4%)
Extra Nodal Disease	36 (30.5%)	20 (26.7%)	16 (37.2%)
Bulk Disease	28 (23.7%)	20 (26.7%)	8 (18.6%)
Median LDH	548 (174-7430)	536 (174-7430)	548 (178-3917)
Median IPI	2 (0-5)	2 (0-5)	2 (0-4)
IT MTX	31 (26.3%)	17 (22.7%)	14 (32.6%)

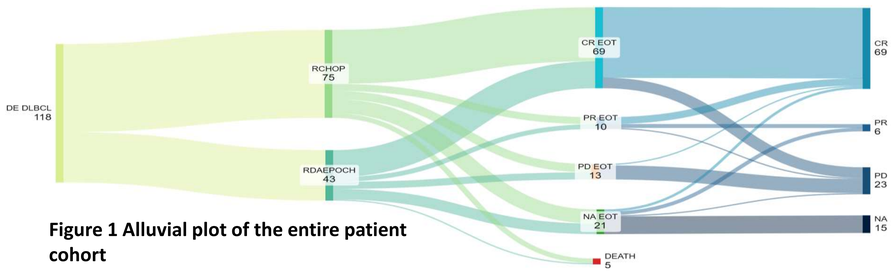


Figure 1 Alluvial plot of the entire patient cohort

- Median age at diagnosis was **48.7 years** (Range 18-80).
- Median duration of follow-up - **355 days** (Range 48-2279).
- **40.7%** had **stage IV disease**, and **23.7%** of the patients had **bulk disease.**
- Of the 110 patients (73 R-CHOP and 37 R-DAEPOCH) for whom cell-of-origin data was available based on Han's algorithm, **67.3%** (51 R-CHOP and 23 R-DAEPOCH) were **non-GCB subtype**.

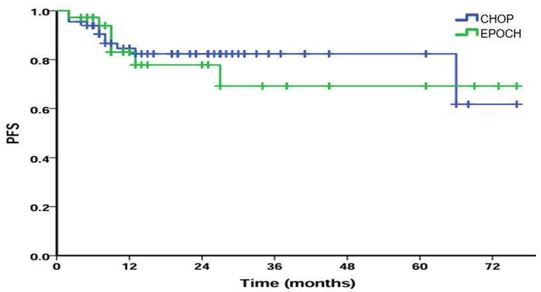


Figure 2 Progression Free Survival (PFS) of all DEL patients.

- End-of-therapy (EOT) data was available in 92 patients (59 R-CHOP and 33 R-DAEPOCH).
- **CR rates were 78% and 69.7%** (p =0.649) in **R-CHOP and R-DAEPOCH** arms, respectively at EOT.
- **ORR rates were 88.2% and 81.8%** (p= 0.404) in R-CHOP and R-DAEPOCH arms, respectively.
- 9 out of 10 patients in PR at EOT (5 RCHOP and 4.R-DAPEOCH) were given IFRT (36-45 Gy).
- No difference in PFS (61.8 ± 3.8 months and 57.1 ± 6.4 months, p=0.075) and OS (68.9 ± 2.7 months and 71.8 ± 2.9 months, p= 0.531) between R-CHOP and R-DAEPOCH, respectively.
- **13** patients had **primary progressive disease** and **11 patients relapsed.**

Table 2 Outcomes

	Total (n=118) n (%)/ Median (Range)/ Mean ± SD	R-CHOP (n= 75) n (%)/ Median (Range)/ Mean ± SD	R-DA-EPOCH(n=43) n (%) Median (Range)/ Mean ± SD	P value
Febrile Neutropenia Admissions	1 (0-5)	1 (0-3)	2 (0-5)	0.185
Infectious Complication	34 (28.8%)	15 (20.0%)	19 (44.2%)	0.007
Median Cultures Drawn	3 (0-23)	2 (0-17)	6 (0-23)	0.000
Interim Response	N=96	N=61	N=35	0.404
CR	23 (24.0%)	17 (27.9%)	6 (17.1%)	
PR	65 (67.7%)	40 (65.6%)	25 (71.4%)	
PD	8 (8.3%)	4 (6.6%)	4 (11.4%)	
EOT response	N=92	N=59	N=33	0.649
CR	69 (75%)	46 (78.0%)	23 (69.7%)	
PR	10 (10.9%)	6 (10.2%)	4 (12.1%)	
PD	13 (14.1%)	7 (11.9%)	6 (18.2%)	
Relapse	11 (9.3%)	6 (8.0%)	5 (11.6%)	0.526
Radiotherapy	25 (21.2%)	15 (20.0%)	10 (23.3%)	0.815
Transplant	2 (1.7%)	0 (0%)	2 (4.7%)	0.131
Treatment Related Mortality	5 (4.2%)	4 (5.3%)	1 (2.3%)	0.709
Status at last follow up	N =98	N =62	N =36	0.306
CR	69 (70.4%)	47 (75.8%)	22 (61.1%)	
PR	6 (6.1%)	3 (4.8%)	3 (8.3%)	
PD	23 (23.5%)	12 (19.4%)	11 (30.6%)	
OS (Months)*	**70 (65.9-74.0)**	**68.9 (63.6-74.4)**	**71.8 (66.2-77.5)**	**0.531**
PFS (Months)*	**60.7(54-67.1)**	**61.8 (54.4 - 69.4)**	**57.1 (44.6-69.7)**	**0.075**

*KM means with 95% CI

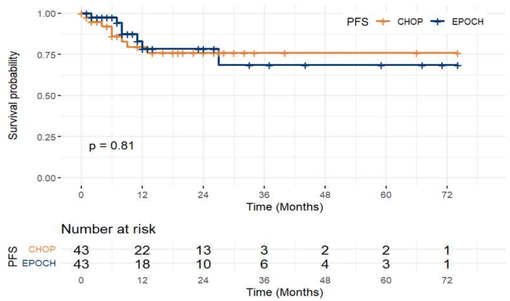


Figure 3 Progression Free Survival (PFS) of all DEL patients after propensity score matching.

Mean survival time after propensity score matching		
Characteristics	*Mean survival (Months)*	*95% CI*
Overall Survival		
DAEPOCH	*70.00*	*64.30 – 76.00*
CHOP	*65.95*	*63.37 – 72.65*
Progression Free Survival		
DAEPOCH	*55.22*	*42.62 – 67.81*
CHOP	*57.70*	*47.77 – 67.64*

The two groups were also matched based on the propensity scores, and compared for OS and PFS. The comparisons show that there was no significant difference in OS/PFS between the two groups.

CONCLUSION

- This retrospective analysis does not support the use of R-DAEPOCH over R-CHOP for DEL.
- Larger randomized trials are needed to clarify the role of dose-intensification for first-line treatment of DEL.
- This is specially relevant in LMICs as R-CHOP is cheaper and there are less logistical issues in its administration.

REFRENCES

1. Riedell, P. A., & Smith, S. M. (2018). Double hit and double expressors in lymphoma: Definition and treatment. *Cancer*, *124*(24), 4622–4632.